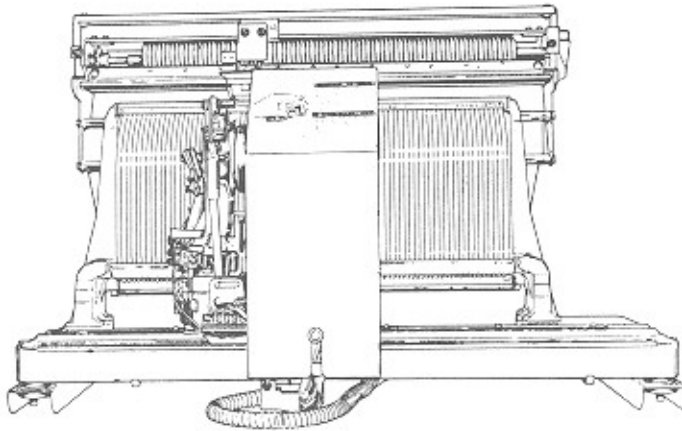
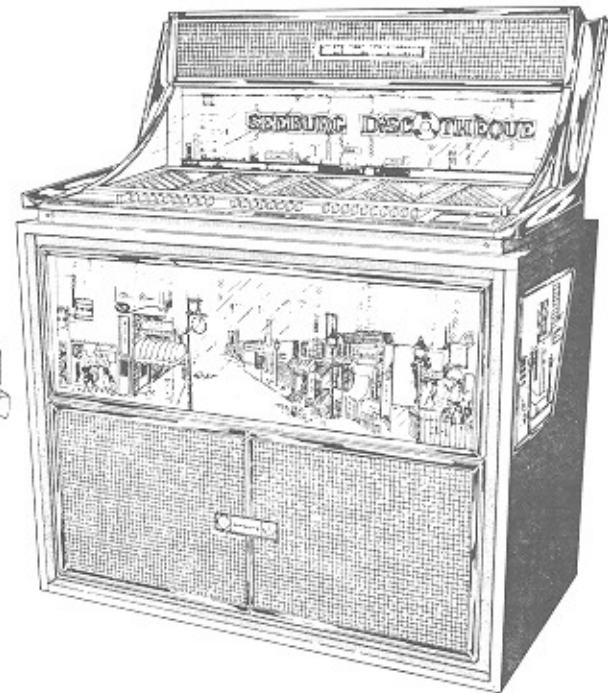


SELECT-O-MATIC MECHANISM

Type 133S5



The Select-O-Matic Mechanism, Type 133S5, is used with the Model APFEAI phonograph. Adjustments and service information are given on the following pages and are indexed below.



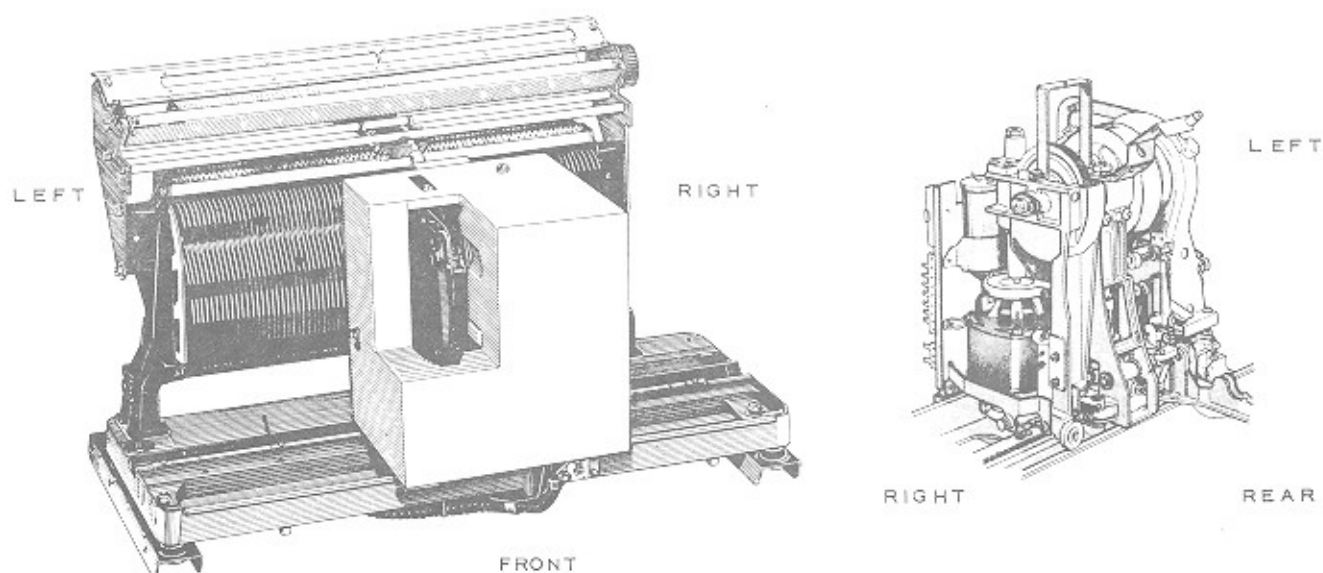
- I N D E X -

Adjustment Preface	2473	Pickup 1 through 13	2491 - 2502
Cam Assembly Installation	2474	Play Control Subtract Switch	2510
Cam Switch	2512	Popularity Meter	2503B
Clamp Arm Installation	2476	Reset Lever Switch	2513
Clamp Arm	2485	Reversing Relay	2506
Clamp Arm Switch	2508	Reversing Relay Latch Lever	2505
Clutch and Housing Assembly Instructions	2477	Reversing Switch 1 and 2	2507 - 2508
Clutch 1 through 4	2478 - 2481	Rubber Bumpers	2509
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Detent Arm and Gear Segment Installation	2474	Safety Lever	2483
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		Turntable Shaft and Gear Installation	2475

- PREFACE -

The adjustments for the 33-1/3 - 45 r.p.m. Select-O-Matic Mechanism are given on the following pages. Each adjustment is associated with a step-by-step procedure which, if followed, will result in correct adjustment and normal operation. These individual adjustments may be made in any sequence but they are, in some instances, dependent on or affected by others. Because of this, they are arranged in a sequence which may be followed from page to page if a completely misadjusted mechanism is to be placed in operating condition. If an individual adjustment is to be checked or made, careful attention should be given to notes indicating dependent adjustments.

Reference is made in these adjustment outlines to the FRONT, REAR, LEFT and RIGHT of the mechanism in order to locate adjusting screws and various mechanical parts. Unless otherwise specified, these are defined as viewed from the front of the cabinet. Reference is also made to right side and left side playing of a record. Right side of a record is defined as viewed from the front of the complete instrument and is played with counter-clockwise rotation of the mechanism flywheel. Left side of a record is defined as viewed from the front of the instrument and is played with clockwise rotation of the flywheel. Counter-clockwise and clockwise rotation of the flywheel are defined as viewed from the left side of the mechanism. These references are used whether the mechanism is in or out of the cabinet.



The operation cycle of the mechanism follows a definite sequence in playing a record. This sequence includes the following:

ALBUM PLAY - in which both sides of a record are played - left side first, then the right side - if either the left or right side has been selected.

SINGLE PLAY - in which only the selected side of the record is played.

SCAN - in which the carriage assembly travels from side to side on the mechanism base.

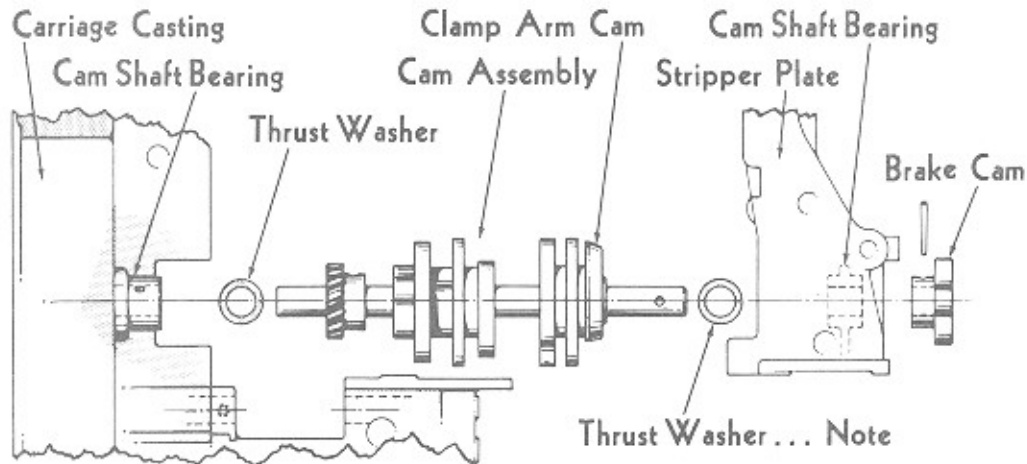
TRANSFER - in which the record is transferred from the magazine to the playing position or from the playing position to the magazine.

PLAYING - in which the record is clamped to the turntable and is played.

The terms SCAN - TRANSFER - PLAYING are also used to describe the position of the clutch, cams and levers of the carriage assembly whether or not the motor is in operation.

SELECT-O-MATIC MECHANISM ADJUSTMENTS

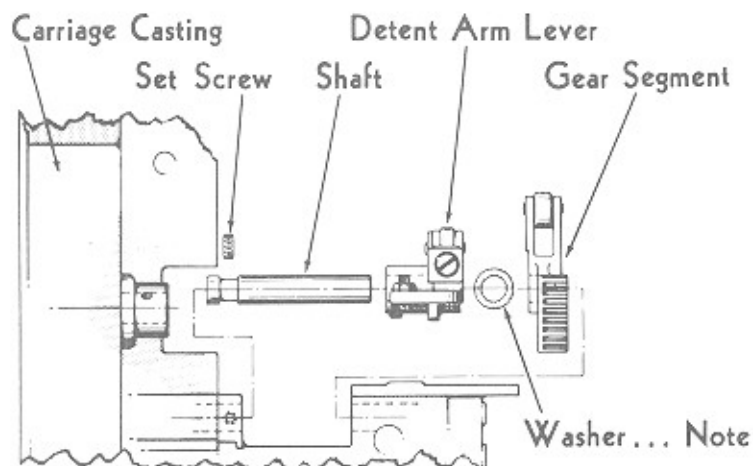
INSTALLATION OF CAM ASSEMBLY, DETENT ARM AND GEAR SEGMENT



NOTE:

Washers, Part No. 922603 (.020"), 922600 (.005"), 922601 (.010"), 922602 (.015") should be selected and installed between the Clamp Arm Cam and the Thrust Washer so the end play of the Cam Assembly is .003" to .010".

After the proper washers have been installed, the cam assembly should be checked by manual rotation, a full turn in either direction without evidence of binds.

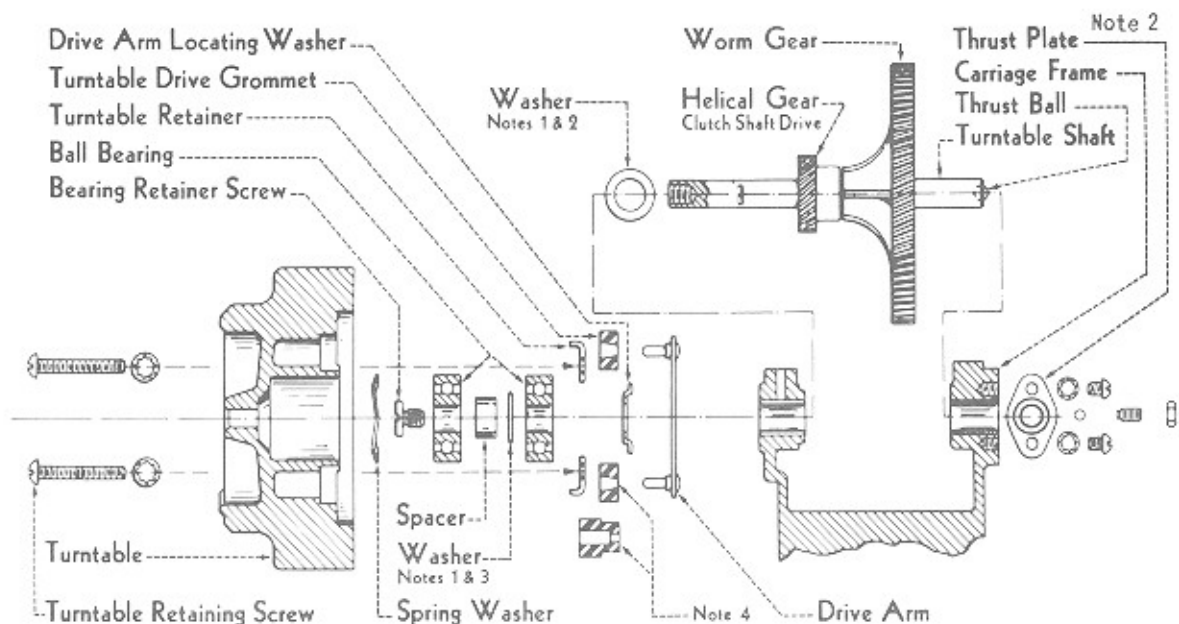


NOTE:

Washers, Part No. 922170 (.015"), 922165 (.010"), 922160 (.005") should be selected and installed between the Detent Arm Lever and the Gear Segment so the end play is .003" to .010".

SELECT-O-MATIC MECHANISM ADJUSTMENTS

TURNTABLE, SHAFT AND GEAR INSTALLATION



Note 1: Washer Part No. 922270 - .005" thick
 Washer Part No. 922271 - .010" thick
 Washer Part No. 922272 - .015" thick

Note 2: Select Washers and install between Clutch Shaft Drive Gear and left Turntable Shaft Bearing so end play of Turntable Shaft is .003" to .007". When thrust plate has screw for adjusting end play of shaft, use one No. 922272 washer and adjust for .003" to .007" end play with screw.

Note 3: Select Washers and install between Spacer and Ball Bearing so end play of Turntable on the Shaft is a maximum of .015". To check this, hold Turntable Shaft firmly against the Thrust Plate, by pressing against the Worm Gear, and move the Turntable to the right in a direction parallel to the Turntable Shaft. The Spring Washer must always take out the end play by returning the Turntable to the left when released.

Note 4: Turntable Drive Grommet with tapered center hole is to be installed with small end of tapered hole toward the Drive Arm. When assembled correctly, the part number, which is molded on the end with the large end of the center hole, will not be visible.

Drive Grommets with "step" should be installed with the small diameter end toward the Drive Arm.

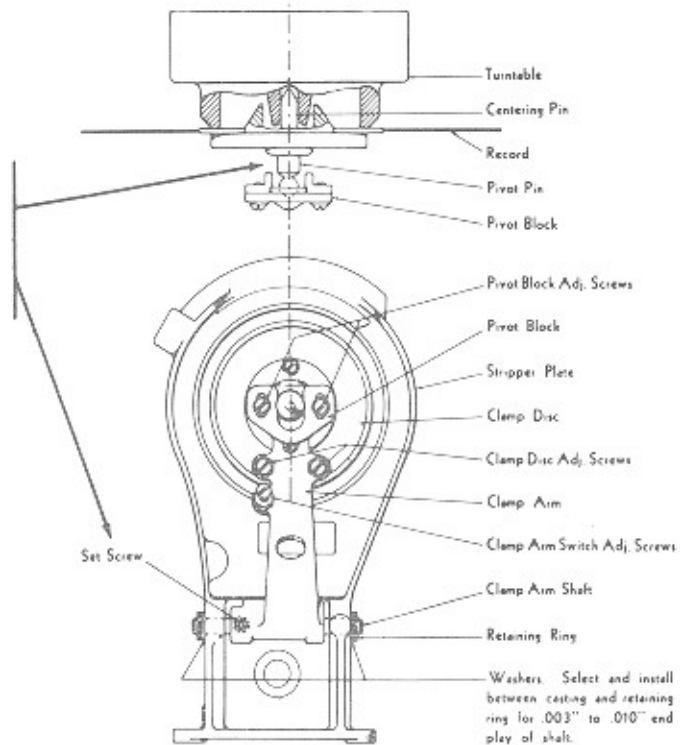
Lubrication: The Gears should have a light coating of Seeburg Special Purpose Oil, Part No. 53014. Do not use more oil than will adhere to the Gears. The felt wick in the Thrust Screw for the Turntable Worm (which meshes with the Worm Gear) must be placed in the hole in the screw so it is in contact with the Thrust Ball. The wick should be saturated with Seeburg Special Purpose Oil.

SELECT-O-MATIC MECHANISM ADJUSTMENTS

INSTALLATION OF CLAMP AND TRANSFER ARMS

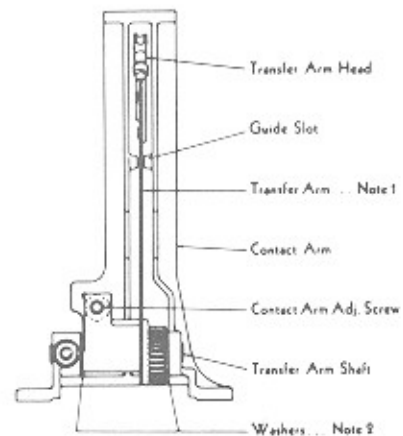
With the Set Screw loose and a Record clamped on the Turntable, adjust the horizontal position of the Clamp Arm so the Center Line through the Pivot Pin forms a right angle with the Clamp Disc and Record.

When installation is complete, readjust Clamp Arm. Refer to Clamp Arm Adjustments.



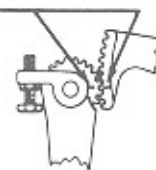
Note 1: Transfer Arm should be straight and should form a right angle with the Transfer Arm Shaft.

Note 2: Washers, Part No. 921551 (.015"), 921550 (.010"), 921552 (.020"), 921553 (.031") should be selected and placed at both ends of the Transfer Arm hub so the Arm falls in the center of the Guide Slot in the Contact Arm and so the end play of the Arm is .003" to .007". There must be at least one washer at each end of the hub.



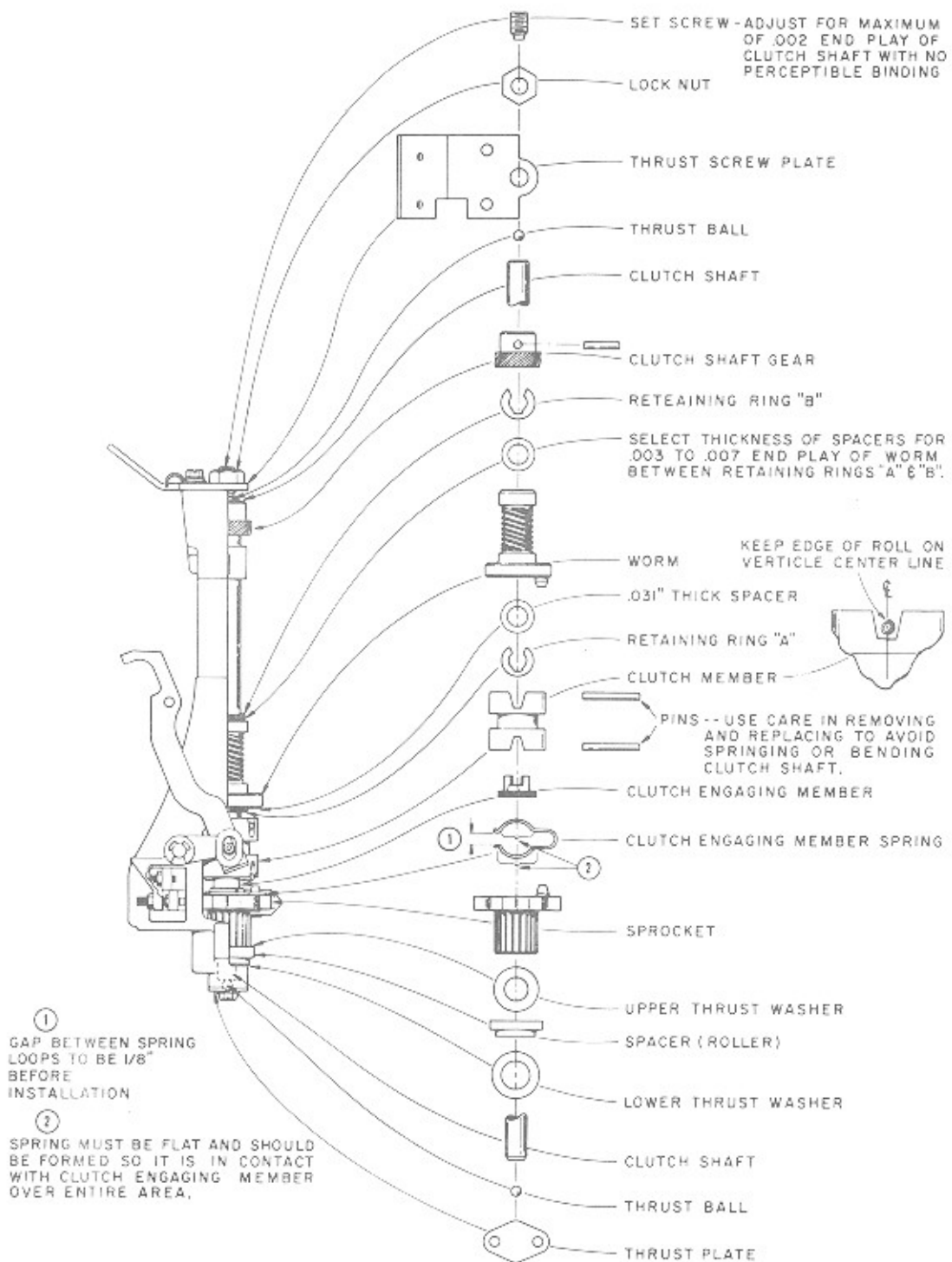
Note 3: When installing assembly on carriage, mechanism and Transfer Arm should be in SCAN position with reference marks aligned as shown.

When installation is complete, readjust Transfer Arm. Refer to Transfer Arm Adjustments.



SELECT-O-MATIC MECHANISM ADJUSTMENTS

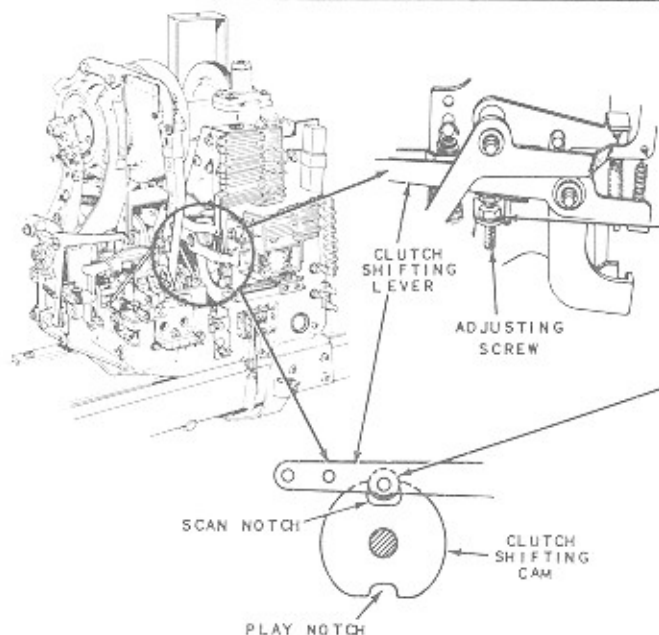
CLUTCH AND HOUSING ASSEMBLY INSTRUCTIONS



Be sure clutch worm and cam shaft drive gear are correctly meshed before tightening clutch assembly mounting screws.

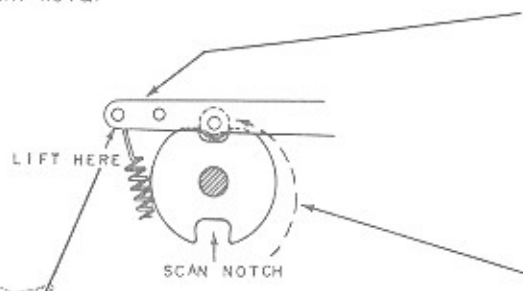
SELECT-O-MATIC MECHANISM ADJUSTMENTS
 "CLUTCH 1" -- CLUTCH LIFTING ADJUSTMENT

This adjustment controls the amount of vertical clutch travel and results in full engagement of the Clutch with the Worm Pin in TRANSFER position and with the Sprocket Pin in SCAN position.

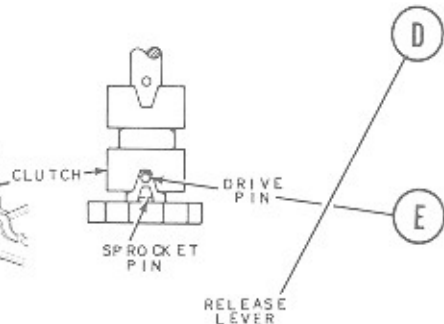
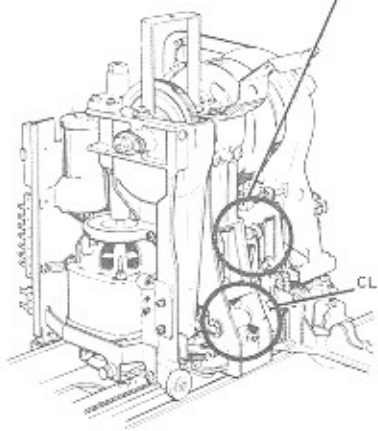


- (A) Scan Carriage to front of U8-V8 record space. Leave it in SCAN position.
- (B) Loosen lock nut and turn Adjusting Screw down to limit.
- (C) Check Clutch Shifting Lever Roller position. The Roller should be in the SCAN Notch.

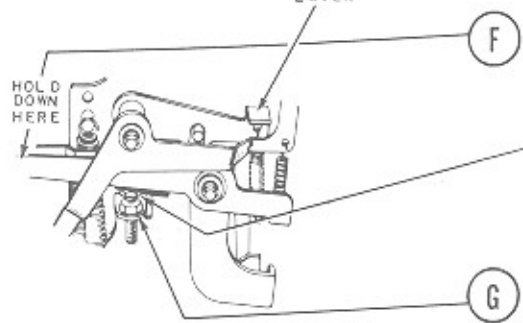
If the Roller is not in the SCAN Notch, turn the motor shaft until the Roller enters fully into the notch. If the Roller enters the PLAY Notch, it may be necessary to manually lift the Clutch Shifting Lever and - - - - -



turn the motor shaft until the Roller is on the high part of its cam. When the Roller is on the high part of the cam, release the Lever but continue turning the motor shaft until the Roller fully enters the SCAN Notch.



- (D) Check Trip Mechanism position. The Trip Mechanism should be latched with Release Lever down to limit.
- (E) Check Clutch position. Clutch should be all the way down against Drive Pin and engaged with Sprocket Pin.



- (F) While manually holding Clutch Shifting Lever down - - - - -
- turn Adjusting Screw UP until screw head just touches Clutch Shifting Lever.
- (G) Tighten Lock Nut.

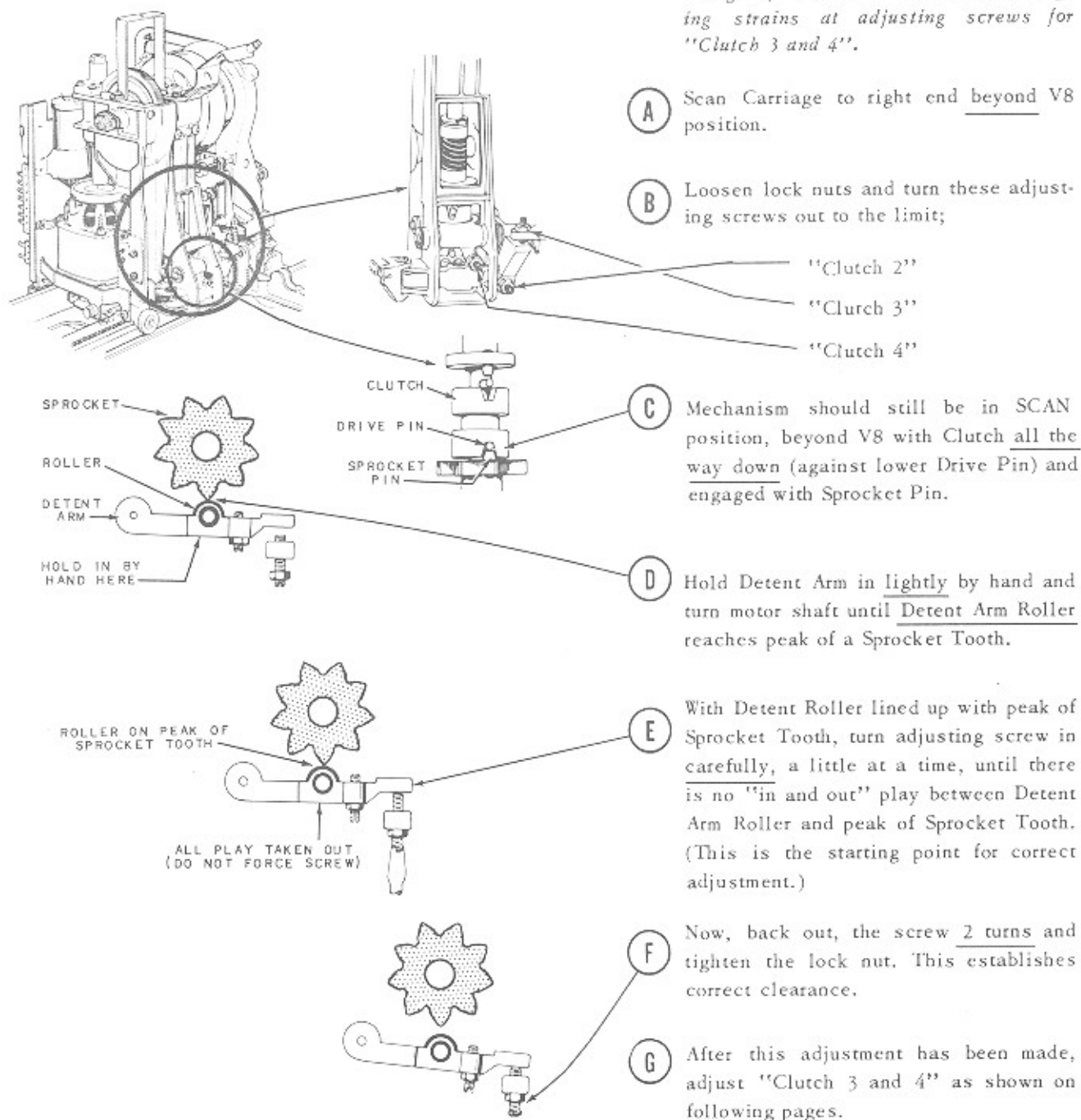
SELECT-O-MATIC MECHANISM ADJUSTMENTS

"CLUTCH 2" - SPROCKET CLEARANCE AND DETENTING ADJUSTMENT

This adjustment establishes correct clearance between the Detent Roller and the Sprocket Teeth when the mechanism is Scanning. It results in clearance between Roller and Sprocket Teeth which allows 1/16 inch movement at end of the Detent Arm.

NOTE 1: "Clutch 1" adjustment should be correct before making this adjustment.

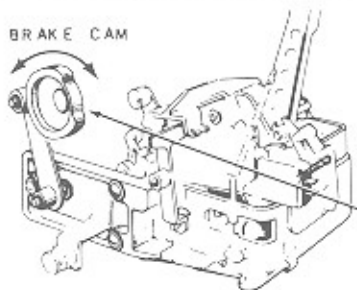
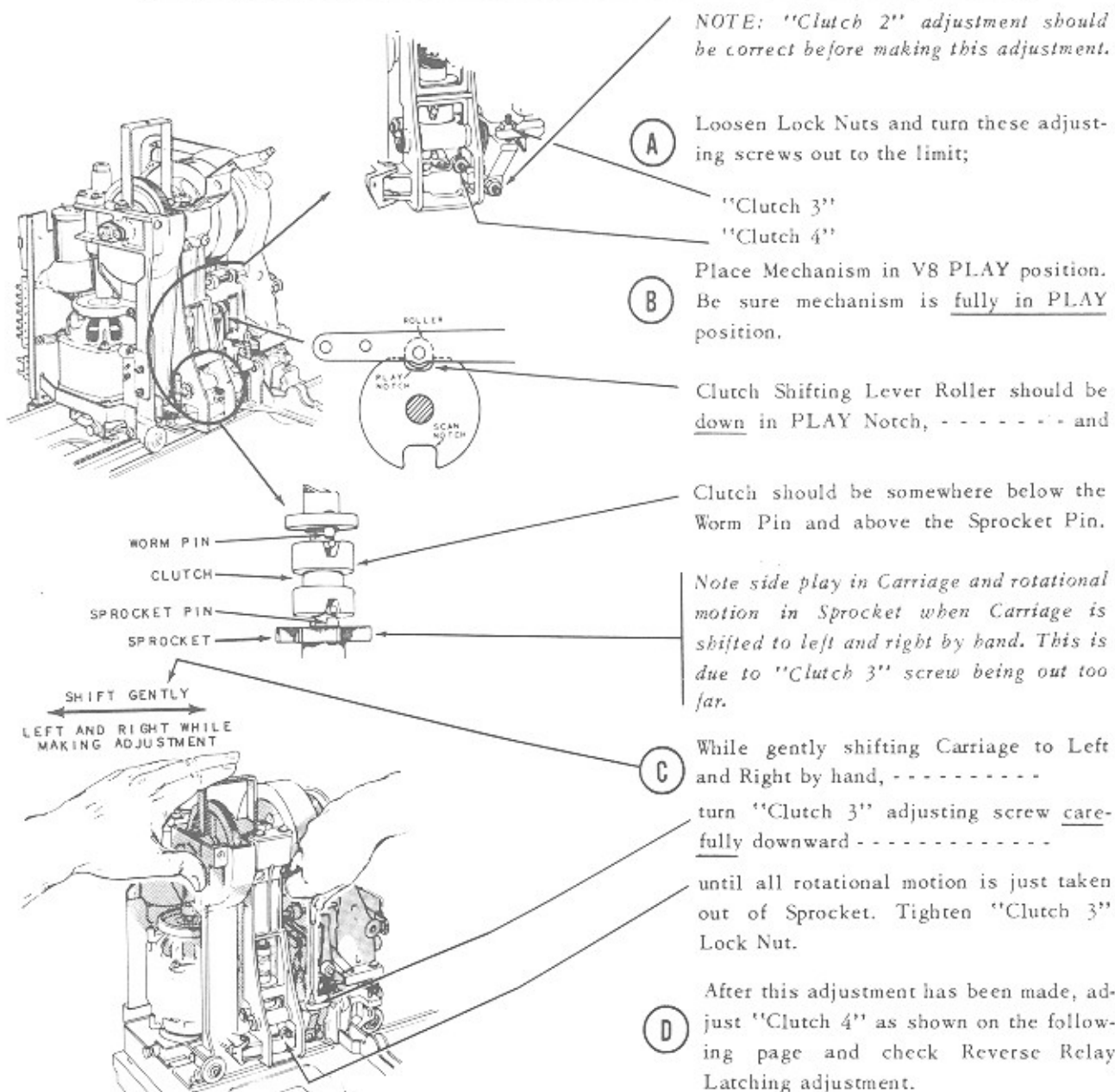
NOTE 2: If "Clutch 2" adjustment is changed in any way, "Clutch 3 and 4" should be readjusted and Reverse Relay Latching should be checked. "Clutch 2, 3 and 4" are related to an extent that a change of "Clutch 2" can cause damaging strains at adjusting screws for "Clutch 3 and 4".



SELECT-O-MATIC MECHANISM ADJUSTMENTS

"CLUTCH 3" - DETENT LOCKING ADJUSTMENT

This adjustment insures proper locking of the carriage while a record is playing. The adjustment takes out all rotational motion of the sprocket resulting in a minimum of lateral play in the carriage.



CAUTION: Note that when adjustment is completed there is no more rotational motion in Sprocket but Carriage still has a slight amount of side play. This is a normal condition due to required gear clearances. Do not force adjusting screw.

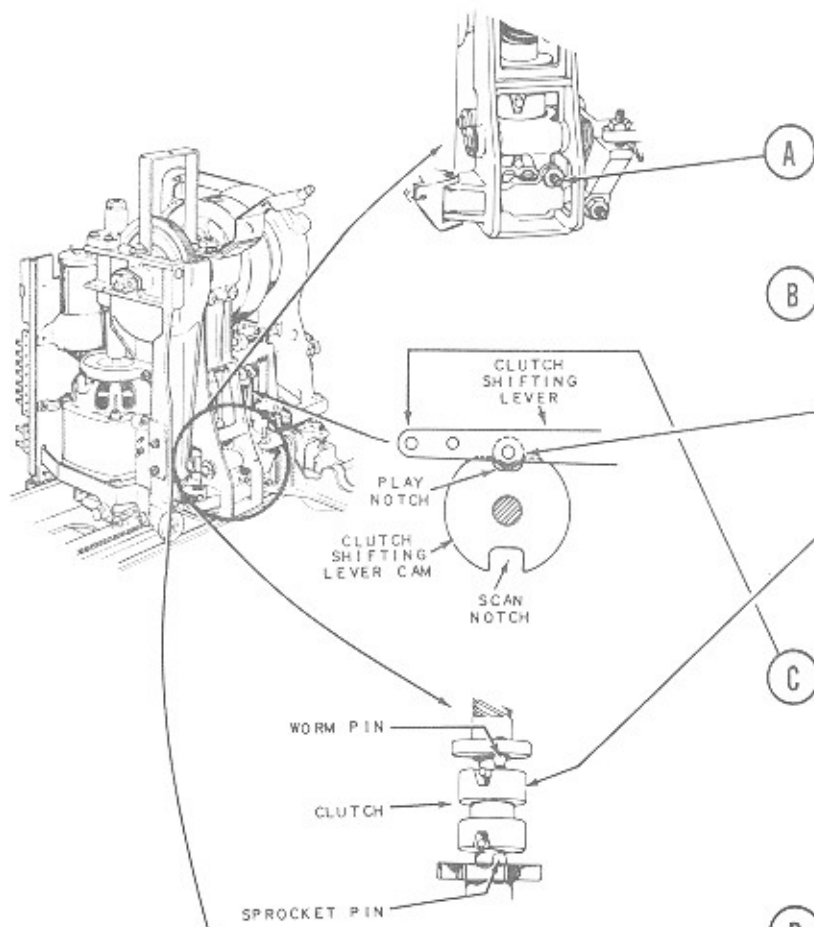
Turning the screw down too far will set up severe strains in the levers and will cause the Cam Assembly to bind when entering PLAY position. When adjustment is completed, check for freedom of action of Cam Assembly by turning Brake Cam by hand in both directions. Cam should have a slight amount of rotational play.

SELECT-O-MATIC MECHANISM ADJUSTMENTS

"CLUTCH 4" - CLUTCH PLAY POSITION ADJUSTMENT

This adjustment establishes the playing position of the Clutch. This results in 1/64 inch clearance between the Clutch and the Worm Pin in PLAY position.

NOTE: Before making this adjustment "Clutch 2 and 3" should be correct. Check Reverse Relay Latching adjustment when "Clutch 4" adjustment is completed.



(A) "Clutch 4" adjusting screw should be turned out to the limit.

(B) Place mechanism in V8 PLAY position. Be sure mechanism is fully in PLAY position.

Clutch Shifting Lever Roller should be down in PLAY notch, - - - - - and

Clutch should be below the Worm Pin and above the Sprocket Pin.

(C) Press downward on end of Clutch Shifting Lever. (This insures that the Clutch has moved to its farthest downward travel before making the adjustment.)

(D) Turn adjusting screw inward until there is 1/64 inch (.015) clearance between the bottom of the Worm Pin and the top of the Clutch.

(E) Tighten Lock Nut.

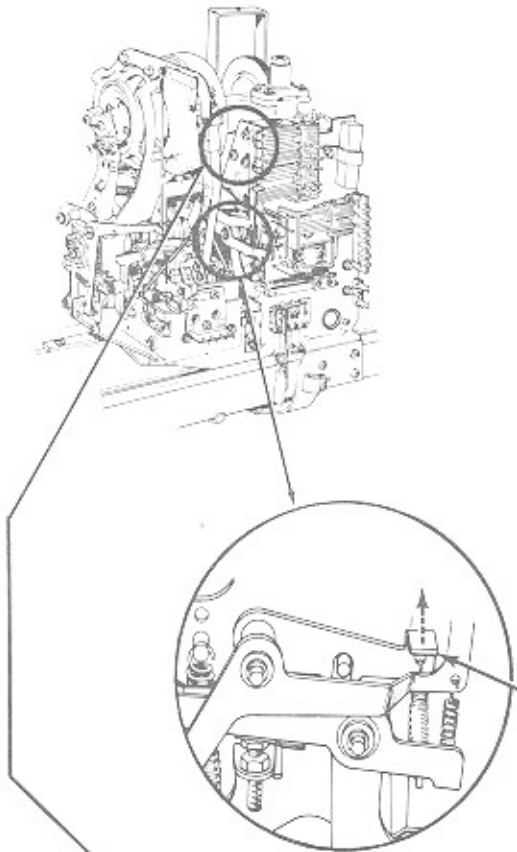
NOTE: Clutch should drop freely, (to 1/64 inch clearance) every time mechanism enters PLAY position. If Clutch does not drop freely into full PLAY position it may hit Worm Pin as it rotates. This can be caused by "Clutch 3" being too tight or by binds in the Clutch and the Clutch Shifting Lever.

REFERENCE SCALE
THESE LINES
1/64" APART
ACTUAL SIZE

SELECT-O-MATIC MECHANISM ADJUSTMENTS

"TRIP SOLENOID" - TRIP SOLENOID POSITION

This adjustment positions the Trip Solenoid so the Trip Lever is raised enough to cause the mechanism to "trip".



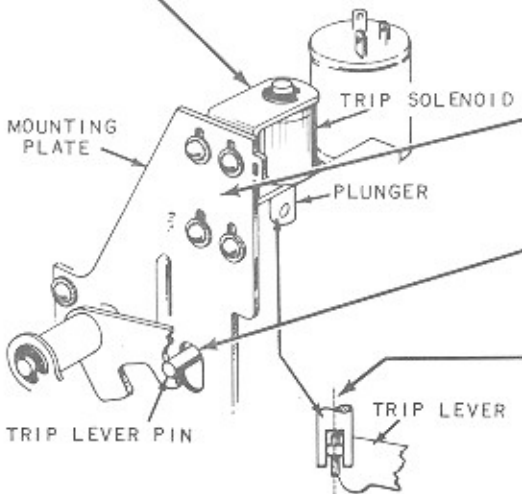
(A) Trip the mechanism by manually lifting the Release Lever.

(B) Loosen four screws holding Trip Solenoid Brackets and - - - - -

adjust the vertical position of the Solenoid so the Trip Lever Pin clears the upper edge of the Mounting Plate Hole not less than 1/64 inch when the Solenoid Plunger is in the fully raised position.

(D) Adjust the horizontal position of the Solenoid so the forked end of the Trip Lever, when vertical, is centered in the plunger slot.

(E) To avoid binds the Plunger must have horizontal play when the Trip Lever is in either extreme up or down position.



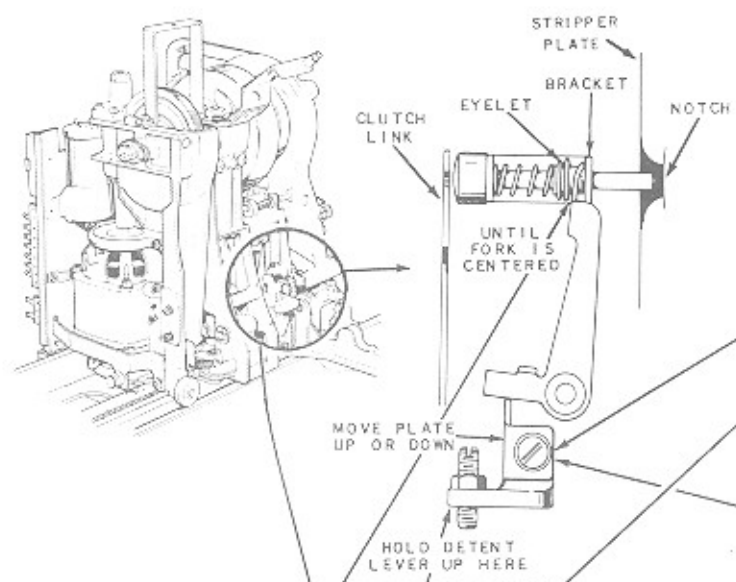
REFERENCE SCALE
THESE LINES
SPACED 1/64"
ACTUAL SIZE

The upper and lower brackets holding the Solenoid should be square with the coil.

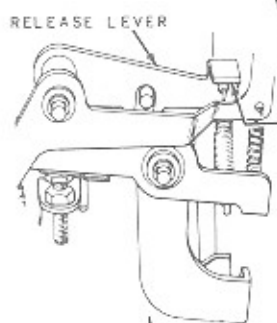
SELECT-O-MATIC MECHANISM ADJUSTMENTS
 "SAFETY LEVER" - SAFETY LEVER POSITION

This adjustment establishes the correct position of the Safety Lever and results in proper travel of the Safety Plunger when the mechanism is entering PLAY or SCAN position.

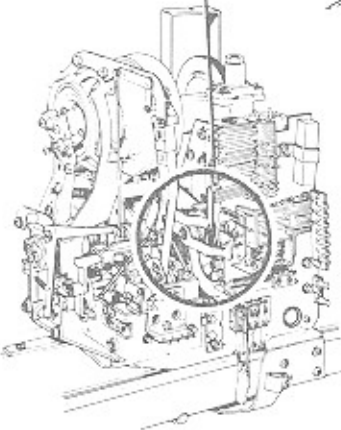
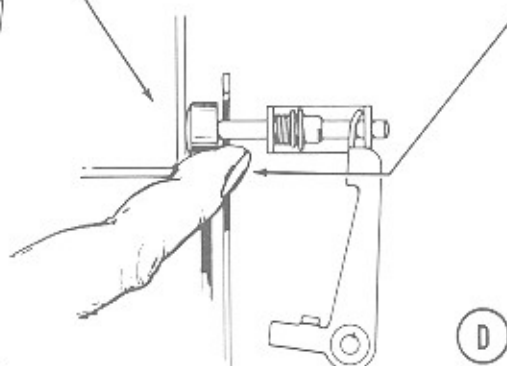
(A) Scan Carriage to right end beyond V8 and turn off power.



- (B)** To adjust Safety Lever, - - - - -
1. Mechanism should still be in SCAN position.
 2. Loosen screw.
 3. While holding Detent Arm Lever up by hand, move Adjustment Plate up or down until top forked end of Safety Lever is approximately centered between eyelet and bracket.
 4. Tighten Screw.



- (C)** To check Safety Assembly for binds,
1. Trip the mechanism by manually lifting the Release Lever.
 2. Pull Plunger all the way over to the left (as shown) and release slowly to right. Plunger should return freely without binds.

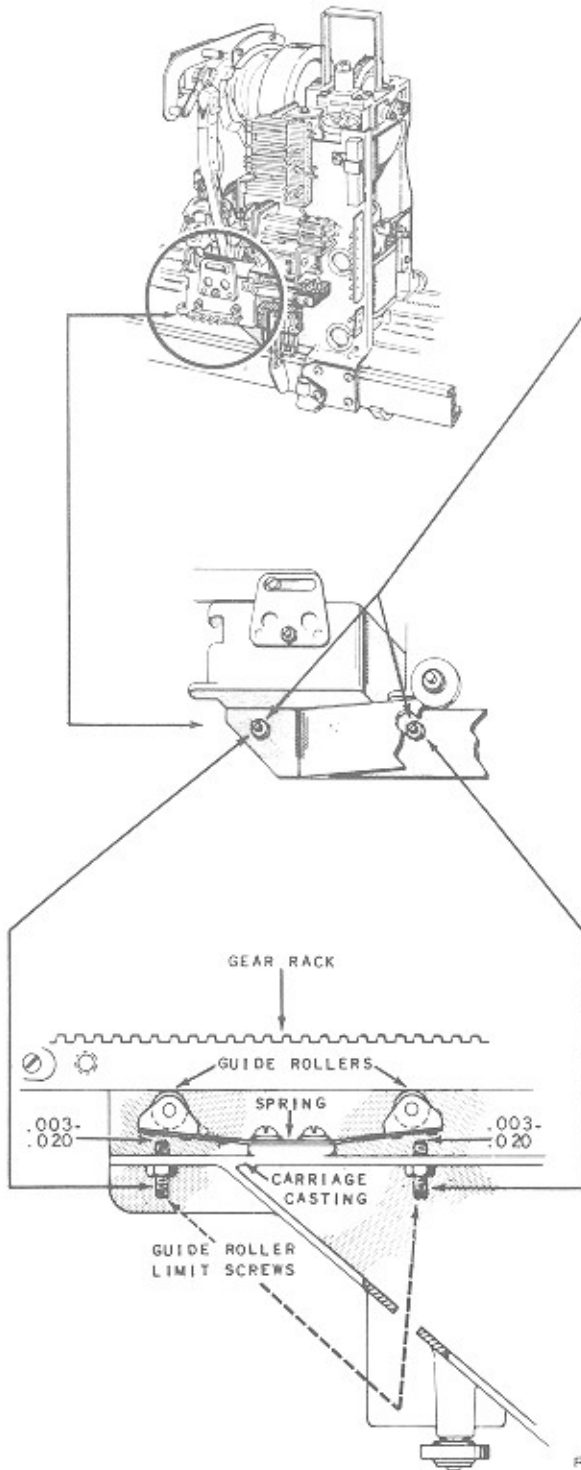


- (D)** To test for correct safety operation, - - - hold the edge of a thin record across the Stripper Plate Notch and run mechanism slowly through SCAN. Hook on Clutch link should catch on large end of Plunger and record should be returned to PLAY position.

SELECT-O-MATIC MECHANISM ADJUSTMENTS

"GUIDE ROLLERS" - CARRIAGE GUIDE ROLLER ADJUSTMENTS

This Adjustment limits the front to back play of the Carriage.



A Front and back play of Carriage on rack should be limited to .003 to .020 by position of Guide Roller Limit Screws.

- B** To adjust Guide Roller Limit Screws -
1. Loosen Lock Nuts.
 2. Carefully turn screws in, all the way, until all front and back play of Carriage is taken out. (DO NOT FORCE SCREWS)
 3. When all front and back play is taken out, back out each screw $\frac{1}{2}$ turn. (This will result in approximately .015 clearance.)
 4. Tighten Lock Nuts.

C Check for play along the entire Gear Rack. Back out each screw an additional $\frac{1}{4}$ turn if necessary to avoid binding.

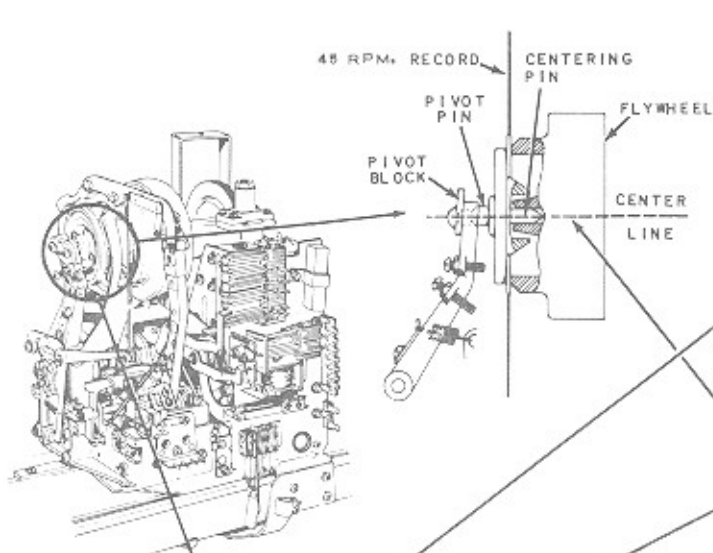
D To check Guide Roller Spring pressure, push left side of Carriage toward the rear and release slowly. Repeat with right side of Carriage. Spring pressure on each side should be great enough to fully reset the Carriage to its normal forward positions.

SELECT-O-MATIC MECHANISM ADJUSTMENTS

"CLAMP ARM 1" - PIVOT PIN ALIGNMENT

This adjustment establishes proper alignment of the Pivot Pin with the Centering Pin and the hole in the Flywheel Shaft.

NOTE: The horizontal position of the clamp arm MUST BE CORRECT before making this adjustment. (See Page 2476)



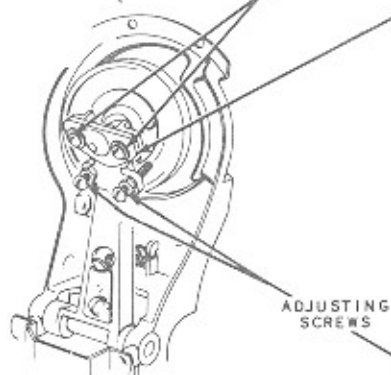
A Place mechanism in PLAY position with a 45 rpm. record clamped on the Flywheel.

B Loosen Pivot Block Screws.

C Move Pivot Block, up or down, until center line of Pivot Pin is in line with or $1/32$ inch below the center line of the Flywheel Shaft, and tighten screws.

"CLAMP ARM 2" - CENTERING PIN POSITION

This adjustment establishes the Centering Pin position allowing it to enter freely into the hole of the Flywheel Shaft when a record is being clamped.

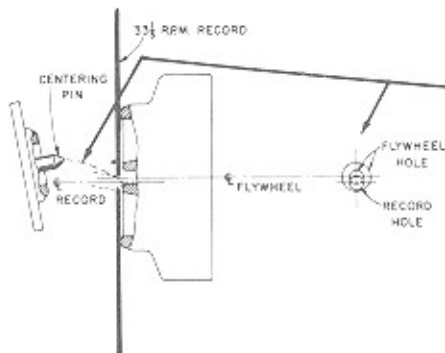


NOTE: "Clamp Arm 1" and transfer arm adjustments should be correct before making this adjustment.

A Loosen lock nuts and adjust both screws as required so - - - - -

B Tip of Centering Pin enters $33\frac{1}{3}$ rpm. record hole as shown.

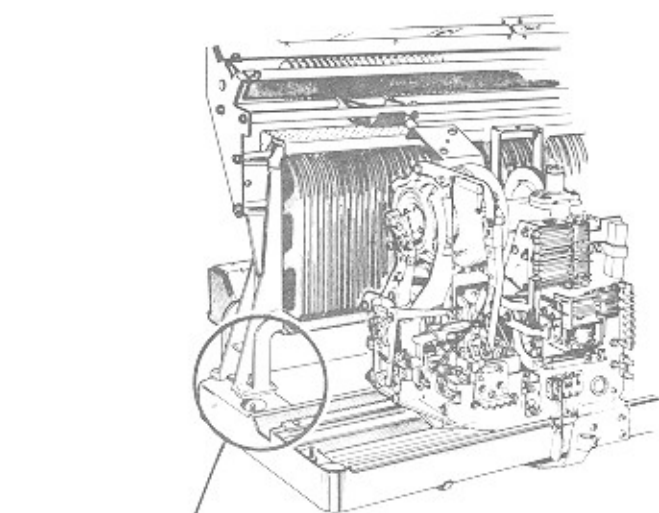
C Tighten Lock Nuts.



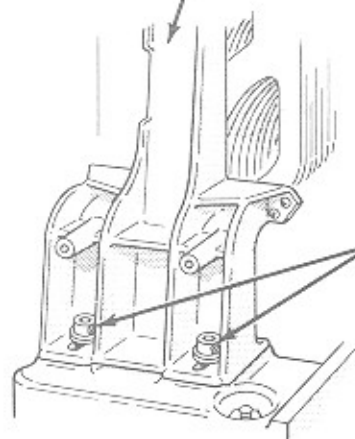
SELECT-O-MATIC MECHANISM ADJUSTMENTS

"MAGAZINE - HORIZONTAL POSITION"

This adjustment establishes the horizontal Magazine position so that when a record is in Play position it is approximately centered with its magazine space.

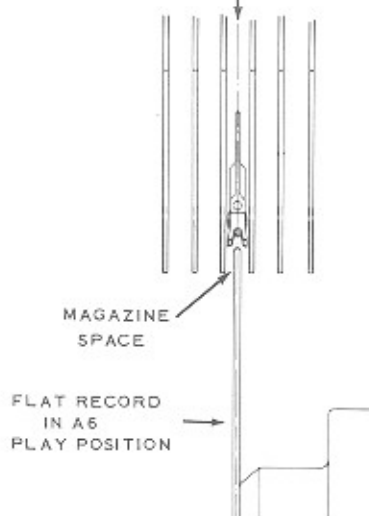


A Place a FLAT record in PLAY position near the center of the magazine. (Be sure the record is FLAT - not warped, not dished.)



B Loosen the cap screws holding both ends of the Magazine to the Base.

C Shift the entire Magazine to Left or Right until the record is in the center of the Magazine Space.



D Tighten cap screws. (Be sure the screws are tight.)

NOTE: If the Magazine position is changed be sure to check -

"Transfer Arm 1"

"Contact Plunger Block"

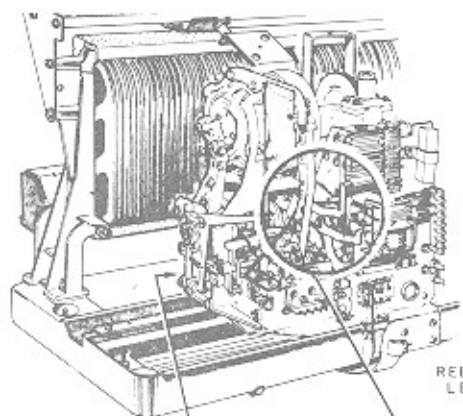
"Format Memory Unit Position"

"Record Playing Indicator"

SELECT-O-MATIC MECHANISM ADJUSTMENTS

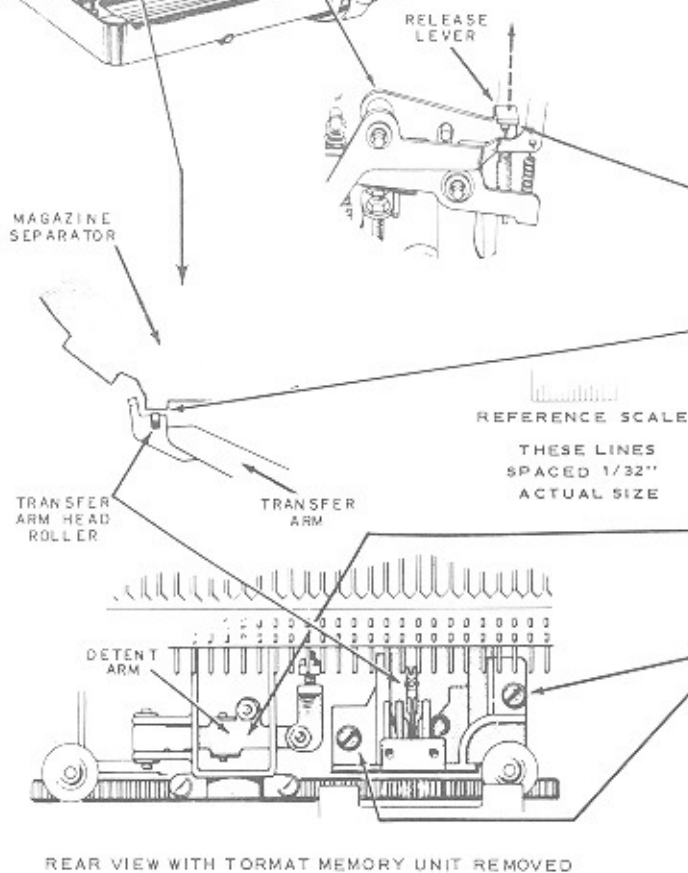
"TRANSFER ARM 1" - ALIGNMENT TO MAGAZINE

This adjustment establishes the lateral position of the Transfer Arm so the Transfer Arm Head will be centered in the magazine space when a record is transferred.

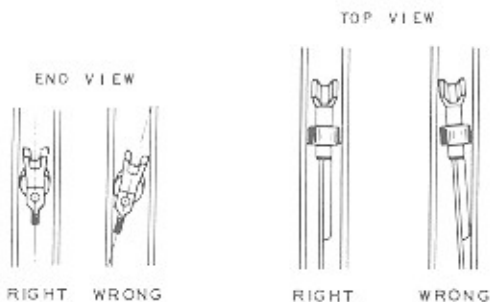


NOTE: The Magazine horizontal position adjustment should be correct before making this adjustment.

The Tormat Memory Unit should be removed for convenience in making this adjustment. This can be done by removing its four mounting screws.



REAR VIEW WITH TORMAT MEMORY UNIT REMOVED



RIGHT WRONG

RIGHT WRONG

- (A) Scan the mechanism to a position near the center of the magazine and turn off power.
- (B) Trip the mechanism by manually lifting the Release Lever.
- (C) Turn motor shaft until Roller in Transfer Arm Head is approximately 1/32 inch below the projections on the lower edges of the Magazine Separators.
- (D) Push in on Detent Arm to take out Carriage Side Play.
- (E) Loosen two screws holding Contact Arm Casting to Carriage Casting and - - -
- (F) Shift Contact Arm Casting to left or right until Transfer Arm Head is centered in the space. Tighten screws.
- (G) When the Transfer Arm enters the space, the Transfer Arm Head should be parallel to the Magazine Separators as shown. Straighten Arm if necessary to correct Transfer Arm Head alignment.

NOTE: After making this adjustment be sure to check and adjust - "Contact Plunger Block" and "Tormat Memory Unit Position."

SELECT-O-MATIC MECHANISM ADJUSTMENTS

"TRANSFER ARM 2" - PLAY POSITION CLEARANCE

This adjustment establishes the travel of the Transfer Arm so that records will be properly clamped to the Flywheel by the Clamp Arm.

NOTE: CLAMP ARM 1 & 2 ADJUSTMENTS MUST BE CORRECT BEFORE MAKING THIS ADJUSTMENT.

A Scan the carriage to the Left, stopping it *one position to the LEFT* of A1 so the Transfer Arm will come up outside the magazine.

B Trip the mechanism by manually lifting the Release Lever.

C Place a normal size *33-1/3 rpm. record (with 5/16" spindle hole) in position on the Transfer Arm head and turn motor shaft until record is at its maximum raised position. This will be at a point where the Clamp Arm just starts moving toward the record.

D Adjust screw so record spindle hole is exactly aligned, vertically, with the centering pin hole in the fly wheel and - - - -

REFERENCE SCALE

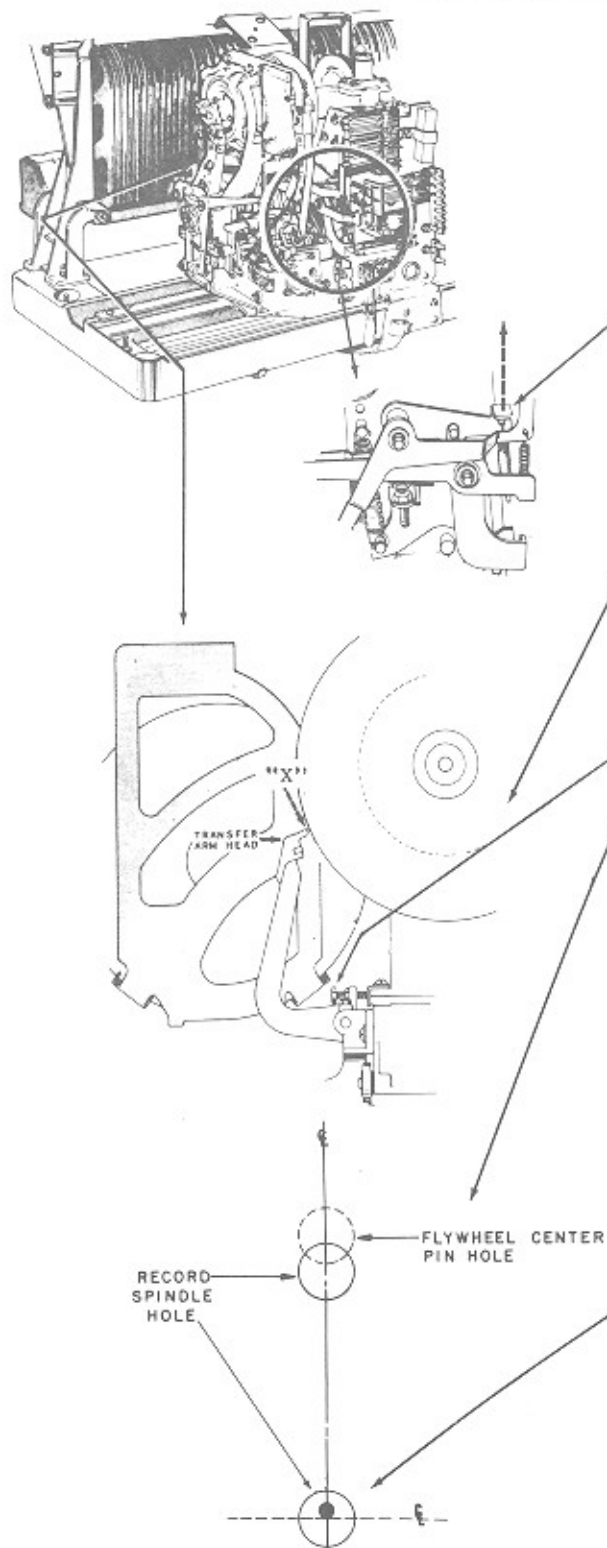


THESE LINES 1/16" APART ACTUAL SIZE

E - - - - the record ramp should be positioned so the tip of the centering pin enters the record spindle hole in line with or 1/32" above the horizontal center line of the record hole.

After the record has been clamped and the pick-up moves to the record, the Transfer Arm moves downward so there is about 1/4" clearance at "X" in play position.

*DIAMETER OF A NORMAL SIZE RECORD IS 6 - 7/8" ± 1/32".

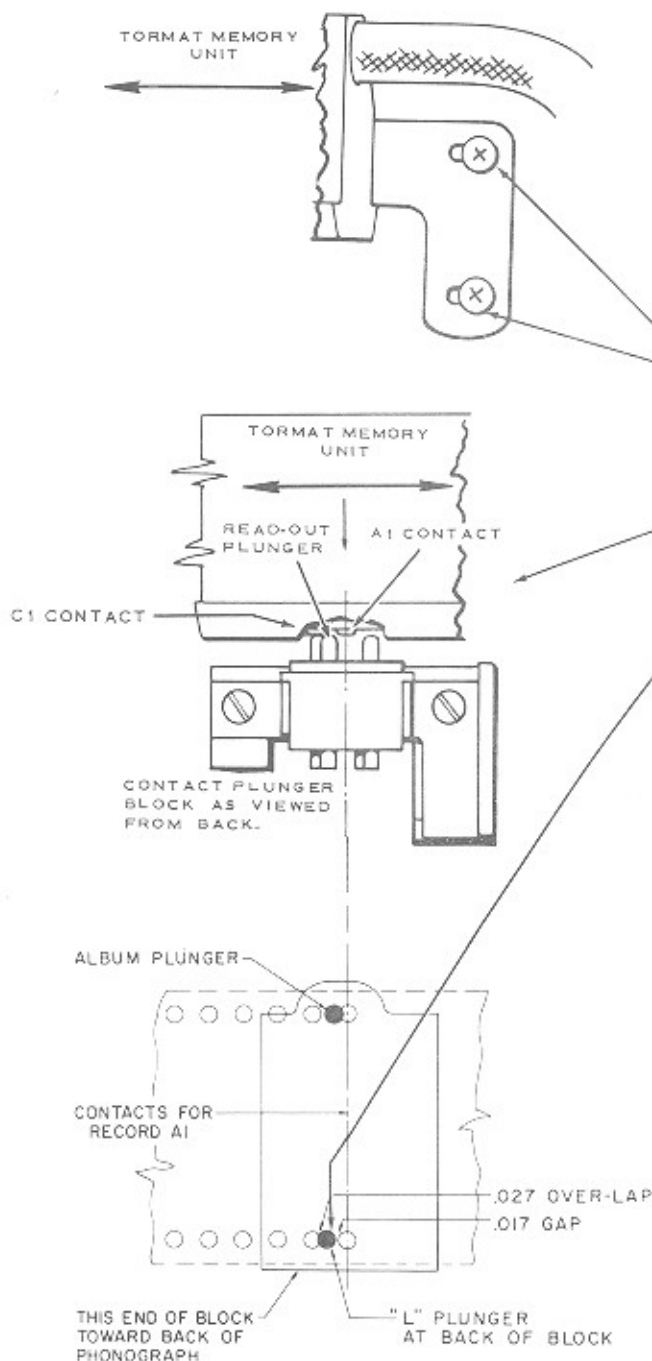


SELECT-O-MATIC MECHANISM ADJUSTMENTS

"TORMAT MEMORY UNIT POSITION"

This adjustment positions the Tormat Memory Unit so the contact plungers and Tormat contacts will be correctly aligned for tripping the mechanism at the selected record.

NOTE: If for any reason the Tormat Memory Unit is removed from the mechanism the Contact Plunger Block adjustments must be checked and, if necessary, corrected before making the Tormat adjustment. This may be done with a preliminary lateral adjustment of the unit by placing the mechanism at A1 and mounting it on the magazine with rear plunger just touching contact rivet for adjacent selection (to the left of the contact for A1).



NOTE 1: The Tormat Memory Unit and the Contact Plunger Block positions are related so each must be checked if any one is changed.

NOTE 2: Check "Clutch 3" for minimum carriage side play also check "Magazine" and "Transfer Arm 1" adjustments before making this adjustment.

A Place the mechanism in PLAY position at record space A1 and turn off power.

B Loosen the two mounting screws at each end of the Memory Unit.

C Adjust the lateral position of the Unit so the Read-out contact plunger is to the left* of the A1 contact with approximately 1/64 inch gap between the Read-out plunger and the contact to its right.

D Place the mechanism in PLAY position at the record position next to the last one on the left* and check the Read-out contact plunger relative to the Memory Unit contacts. It should duplicate position described above. Exact plunger positioning is not necessary but if it is not the same at both end positions shift the Memory Unit, as required so the variation at gap is equally divided at both ends of the magazine.

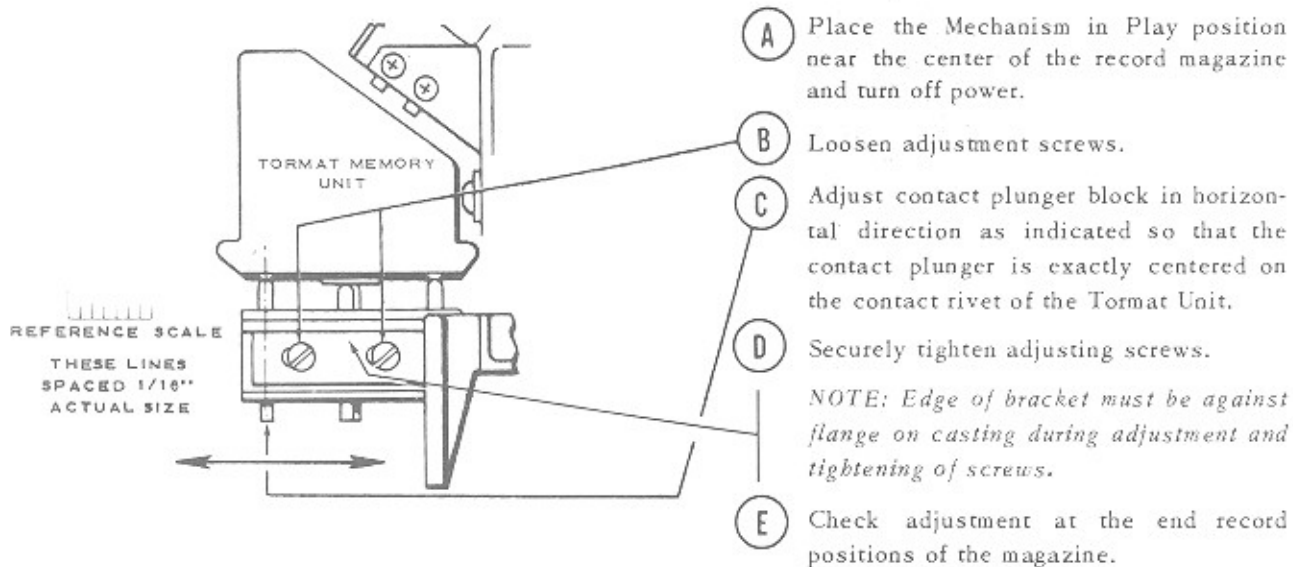
* As viewed from the back of the phonograph.

SELECT-O-MATIC MECHANISM ADJUSTMENTS

"CONTACT PLUNGER BLOCK 1" - HORIZONTAL POSITION

This adjustment positions the Contact Plunger Block horizontally (front to back) and determines proper alignment of the contact plunger and the Tormat contact rivets.

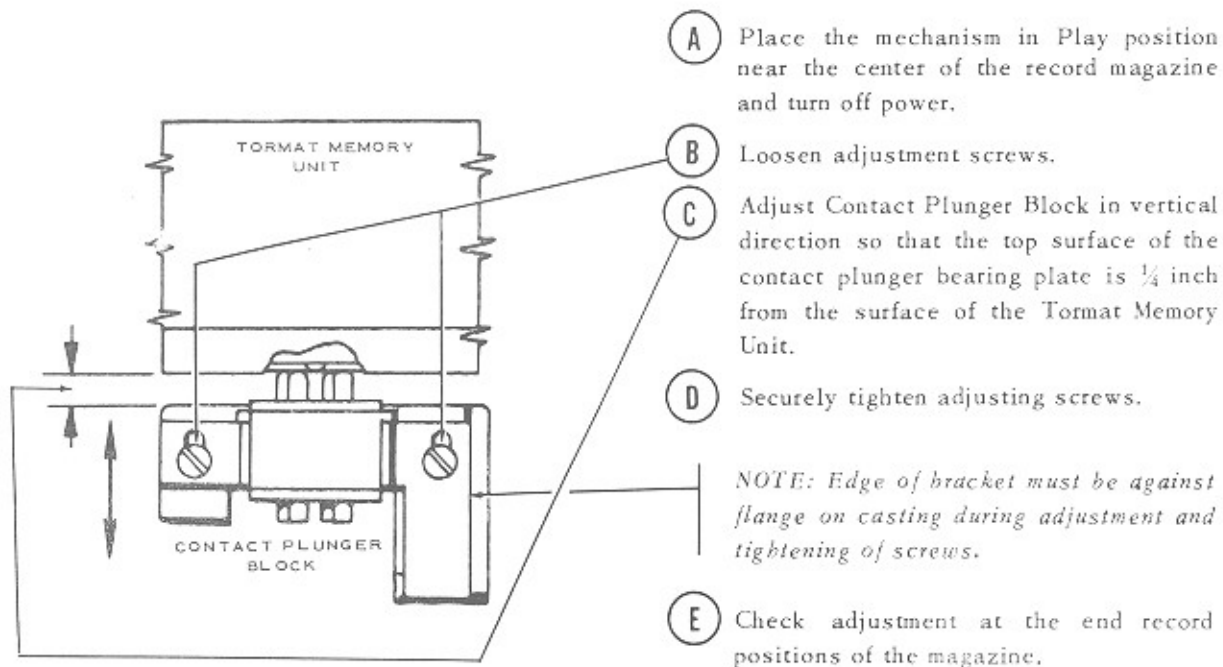
NOTE: The Tormat Memory Unit and the Contact Plunger Block positions are related so each must be checked if any one is changed.



"CONTACT PLUNGER BLOCK 2" - VERTICAL POSITION

This adjustment positions the Contact Plunger Block vertically to assure proper contact pressure and movement of the plungers.

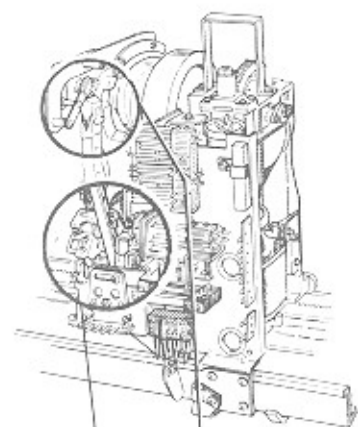
NOTE: The Tormat Memory Unit and the Contact Plunger Block positions are related so each must be checked if any one is changed.



SELECT-O-MATIC MECHANISM ADJUSTMENTS

"PICKUP 1" - NEEDLE LANDING ADJUSTMENT

This adjustment establishes the point of landing of the needle on the record at the beginning of Play. It should be made so the needle lands half way between the edge of the record and the first playing groove.



A Select the Left side of a normal* record (preferably a transparent type) and place the record and the mechanism in Left Side PLAY position.

B Loosen Lock Nuts on -----
 "Pickup 1" and -----
 "Pickup 2". Turn Adjusting Screw out to limit. ("Pickup 2" Adjusting Screw is loosened to avoid possibility of binds in the levers when the mechanism is later returned to SCAN.)

C Hold Adjusting Screw down against casting and adjust so -----

D ----- needle is halfway between outer edge of record and the playing grooves. (If transparent type record is used, point where needle touches can be seen through the record.)

E Tighten "Pickup 1" Lock Nut.

F Select the Right side of the same record and check for proper needle landing at the beginning of Right Side PLAY.

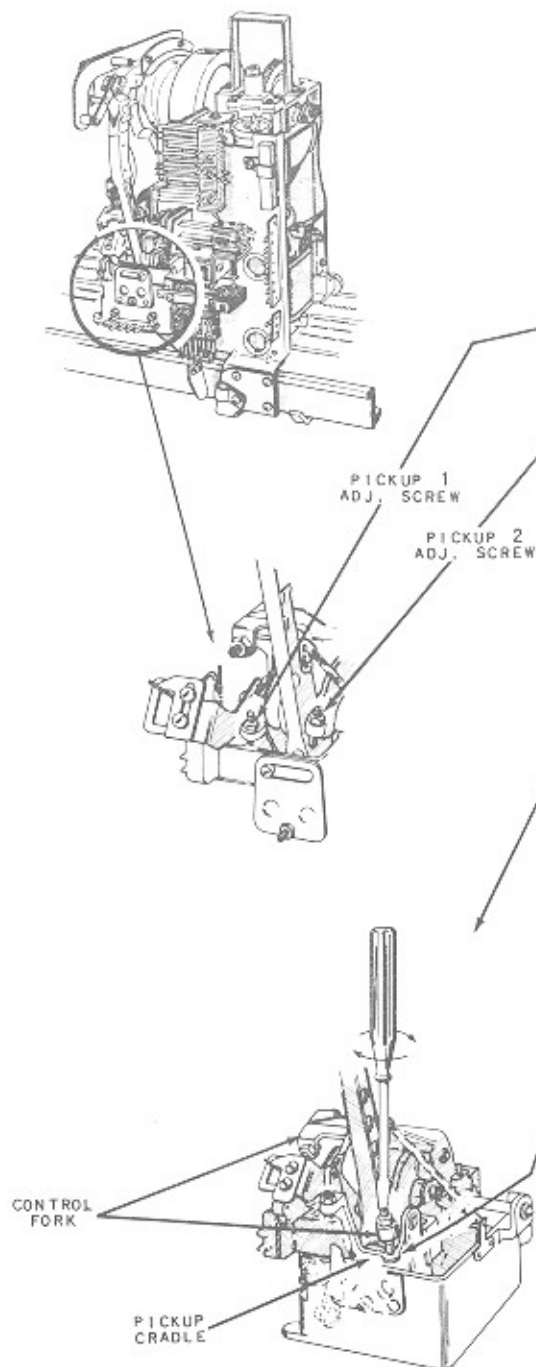
G After this adjustment had been made, adjust "Pickup 2" as shown on the following page.

*DIAMETER OF A NORMAL SIZE RECORD IS 6-7/8" ± 1/32".

SELECT-O-MATIC MECHANISM ADJUSTMENTS

"PICKUP 2" - PICKUP RETURN ADJUSTMENT

This adjustment results in proper return of the Pickup Arm to SCAN position and allows enough play between the Cradle and the Adjusting Screw to avoid binds.



NOTE: "Pickup 1" adjustment should be correct before making this adjustment.

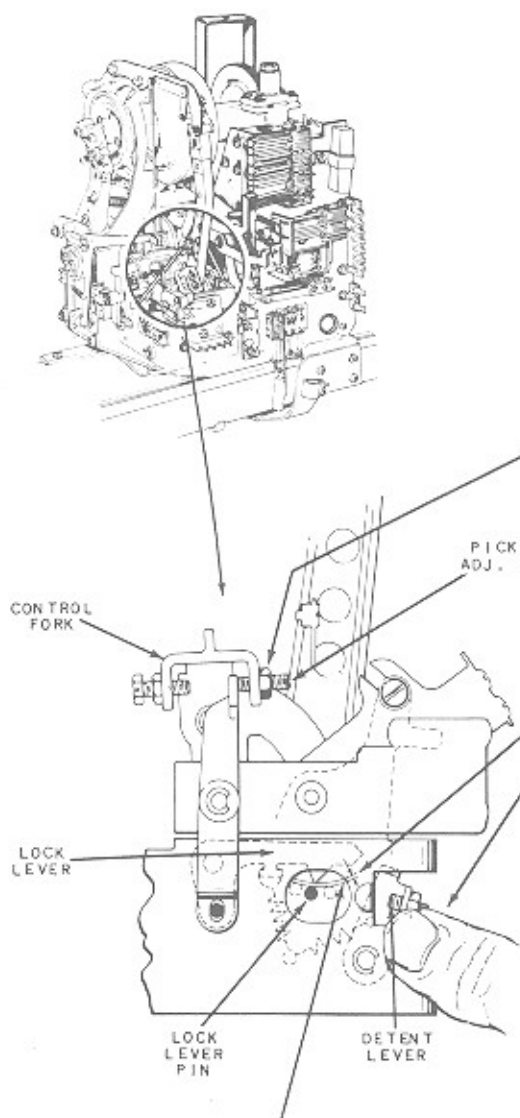
- A Place mechanism in SCAN position with Pickup Arm on Left Side.
- B "Pickup 1" Adjusting Screw should be against the casting.
- C Loosen Lock Nut and turn "Pickup 2" Adjusting Screw out to limit.
- D Insert screw driver in screw slot. Push straight down on screw with screw driver, then release. Note clearance between screw and cradle and note the up and down play in the Control Fork.
- E While gently pushing down and releasing the screw with screw driver, turn screw down carefully, a little at a time, until all the up and down play is just taken out.
- F Back out screw $\frac{1}{4}$ turn from the above position and tighten Lock Nut. (This allows a small amount of clearance under the screw and a slight amount of up and down play in the Control Fork).
- F Place mechanism in Right side PLAY position then return it to SCAN with Pickup Arm on Right Side. Check for equivalent up and down play of Control Fork with Pickup Arm on Right side.

CAUTION: If "Pickup 2" Adjusting Screw is down too far (no up and down play in Control Fork) it may place a bind on the Levers and interfere with proper Pickup shifting action. A check for proper shifting of Pickup can be made by alternately selecting and playing several Right and Left sides of records. Each time Pickup shifts it should move smoothly all the way over to its Right or Left position.

SELECT-O-MATIC MECHANISM ADJUSTMENTS

"PICKUP 3" - PICKUP RELEASE ADJUSTMENT

This adjustment establishes 1/32 inch clearance between the path of the Lock Lever Pin and the lower projection of the Lock Lever when the mechanism is in PLAY position.



- (A) Place mechanism in Left Side PLAY position.
- (B) Loosen Lock Nut - - - - and while holding Detent Lever away from the Lock Lever, - - - -
- (C) adjust screw so that the lower projection of the Lock Lever and the Lock Lever Pin clear by 1/32 inch when the Pin is moved past the Lever.
- (D) Tighten Lock Nut.
- (E) Place mechanism in Right side PLAY position. While holding Detent Lever away from Lock Lever, move Pickup Arm in along record and again check for required 1/32 inch clearance.

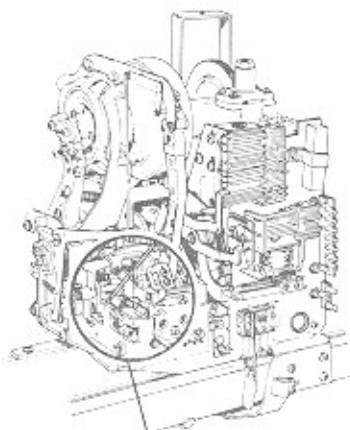
If clearance is not approximately the same in both Right and Left side PLAY positions, check Lock Lever Pin alignment. Straighten Pin, if necessary.

NOTE: This adjustment should be followed by "Pickup 4" adjustment.

SELECT-O-MATIC MECHANISM ADJUSTMENTS

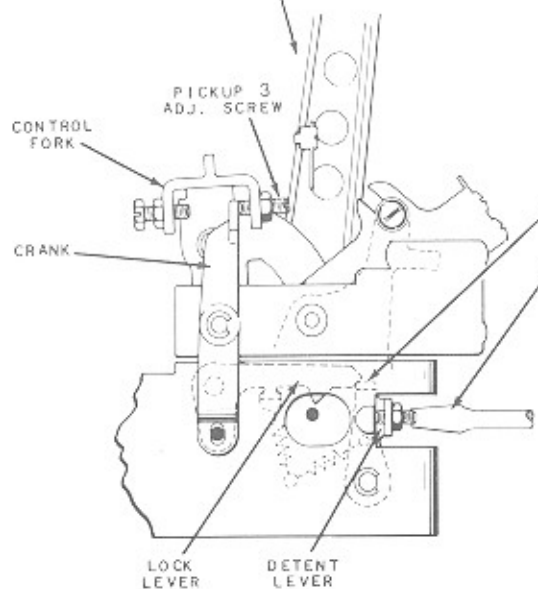
"PICKUP 4" - DETENT LEVER ADJUSTMENT

This adjustment establishes the Detent Lever position so that it just touches the lower slope of the end of the Lock Lever when the mechanism is in PLAY position.



NOTE: "Pickup 3" adjustment should be correct before making this adjustment.

- A** Place mechanism in Right side PLAY position.



- B** Loosen Lock Nut and adjust the screw until Detent Lever just touches lower slope of Lock Lever, as shown.

The Detent Lever should meet the Lock Lever approximately half way along the lower slope. If the edge of the Detent Lever is above or below the lower slope of the Lock Lever, check "Pickup 3" adjustment.

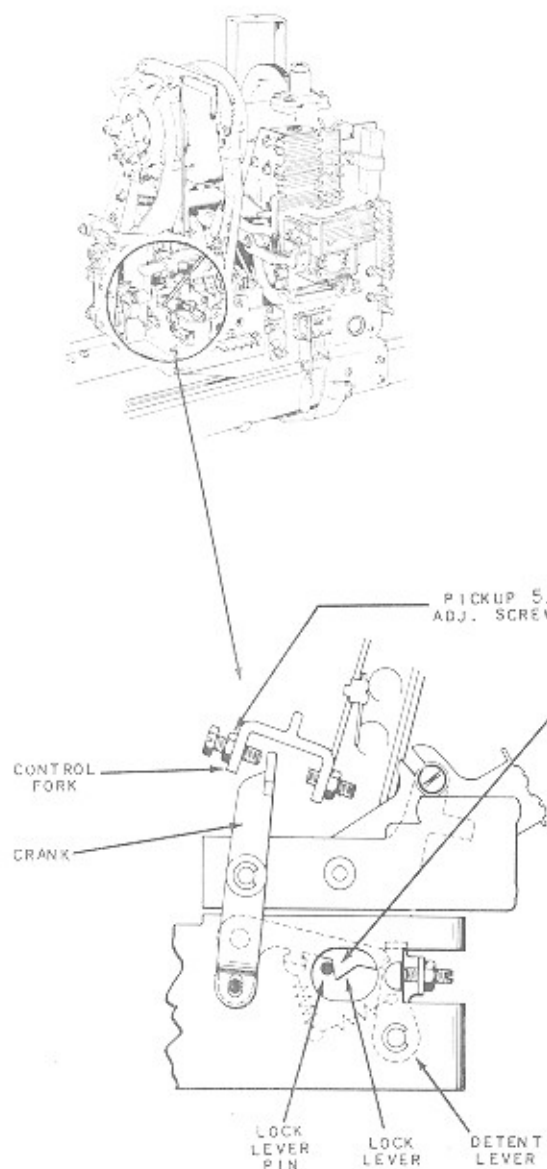
- C** Tighten Lock Nut.

- D** To check - - manually pull top of Control Fork away from Crank. The Detent Lever should hold the Lock Lever and the Crank from moving.

SELECT-O-MATIC MECHANISM ADJUSTMENTS

"PICKUP 5" - PICKUP LOCKING ADJUSTMENT

This adjustment establishes 1/32 inch clearance between the tip of "Pickup 5" adjusting screw and the upper end of the Crank to insure correct locking of the Pickup Assembly in SCAN position.



REFERENCE SCALE
 THESE LINES
 SPACED 1/32"
 ACTUAL SIZE

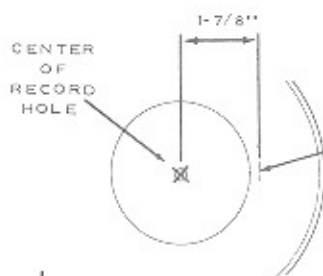
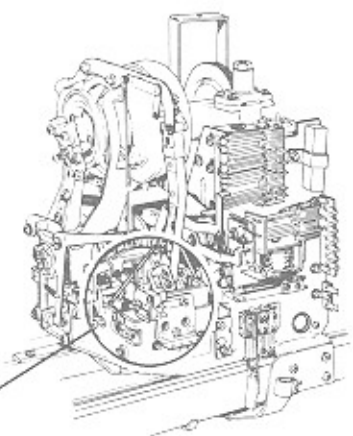
NOTE: "Pickup 4" adjustment should be correct before making this adjustment.

- A** Place mechanism in SCAN position with Pickup Arm and Cradle fully reset on Left side
- B** Lock Lever should be engaged with Lock Lever Pin. Pull Detent Lever out of way, if necessary, to allow Lock Lever to drop against pin.
- C** Loosen Lock Nut and adjust screw so that clearance between the Crank and the tip of the screw is 1/32 inch to 1/16 inch. Note reference scale.
- D** Tighten Lock Nut.
- E** Check adjusting screw clearance by selecting Right side of a record. Screw tip should not touch Crank while shifting.
- F** Check resetting action - - by returning mechanism to Right side SCAN position. Lock Lever should be returned to Lock position against Pin and clearance between screw tip and Crank should be 1/32 inch.

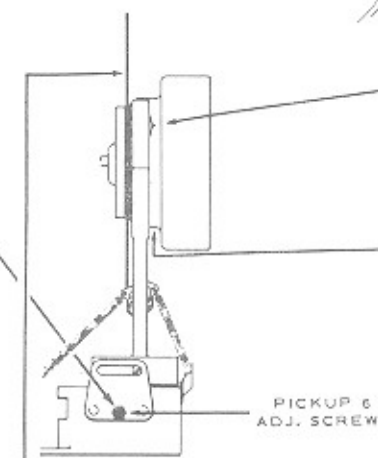
SELECT-O-MATIC MECHANISM ADJUSTMENTS

"PICKUP 6" - PICKUP ARM STOP

This adjustment limits the inward travel of the Pickup Arm so the Pickup Cartridge cannot move in far enough to hit the Flywheel.

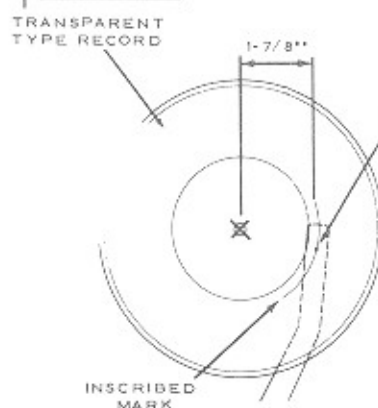


- (A) Inscribe a mark on a record 1-7/8 inch from its exact center. Use a transparent type record if available.



- (B) Place mechanism in Right side PLAY position with inscribed record on Flywheel. Turn off power.

- (C) Move Pickup Arm in as far as possible toward Flywheel.



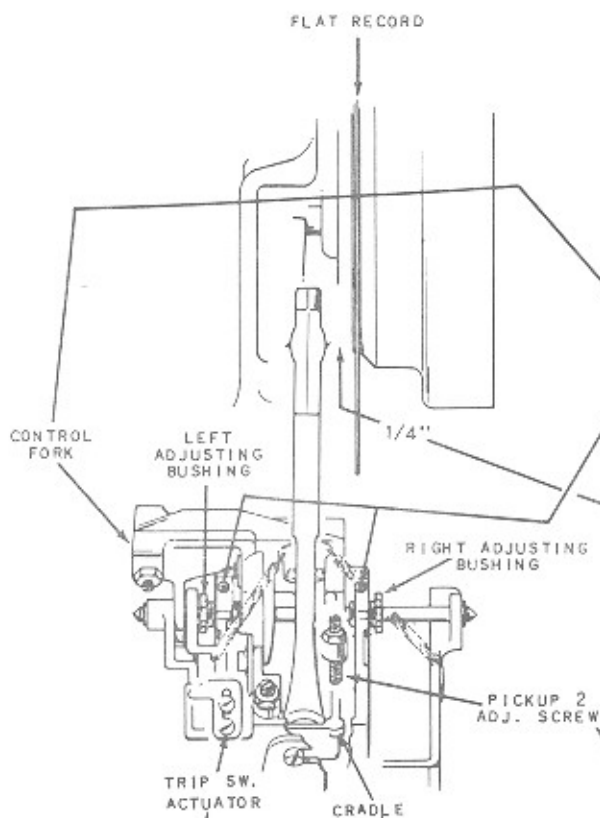
- (D) Loosen Lock Nut and adjust screw so that needle cannot move in toward Flywheel any farther than the inscribed mark, as shown.

- (E) Tighten Lock Nut.

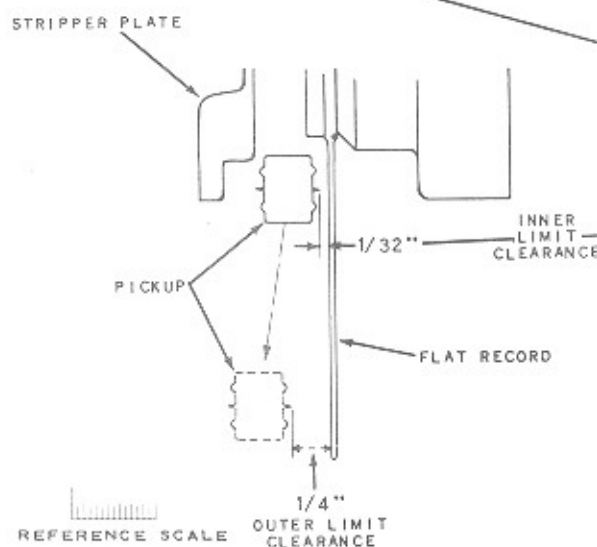
SELECT-O-MATIC MECHANISM ADJUSTMENTS

"PICKUP 7" - PICKUP LIFTING ADJUSTMENTS

This adjustment establishes correct Pickup lifting action and clearance between the needle and record when the Pickup is lifted and returned to its rest position.



NOTE: "Pickup 6" adjustment should be correct before making this adjustment.

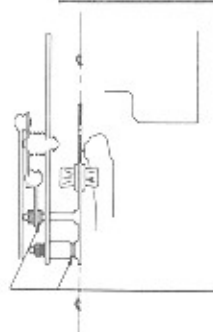


- (A) Place mechanism in Left side PLAY position with a flat record clamped on Flywheel. Turn off power and loosen both socket head set screws holding Adjusting Bushings.
- (B) Pull Control Fork forward to the limit of its travel and - - - -
- (C) adjust Left Adjusting Bushing for 1/4 inch clearance between record and needle.
- (D) Release Control Fork and move Pickup toward center of Flywheel to limit of its travel.
- (E) Hold Pickup in this position by pressing inward lightly on Trip Switch Actuator.
- (F) Pull Control Fork down lightly until "Pickup 2" adjusting screw just touches Cradle.
- (G) In this position of the Pickup Arm and Control Fork the needle should be a minimum of 1/32 inch from the record.
- (H) Repeat above for Right side PLAY position using Right Adjusting Bushing to make adjustment.
- (J) Tighten both set screws.

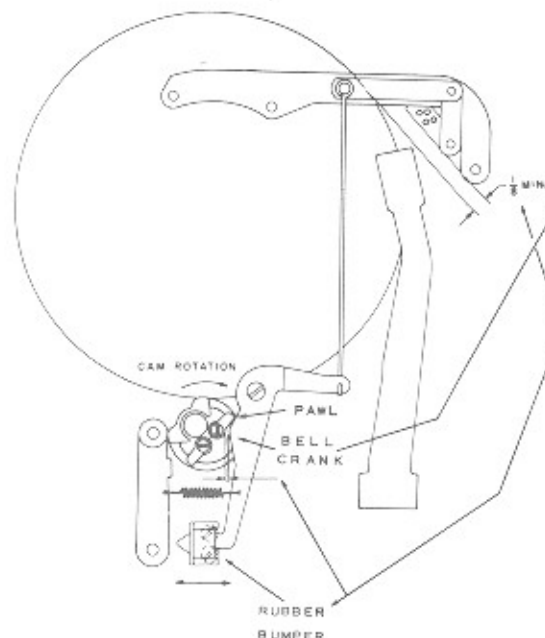
SELECT-O-MATIC MECHANISM ADJUSTMENTS

"PICKUP 8" - BRUSH ADJUSTMENTS

This adjustment positions the brush for correct operation and clearance.



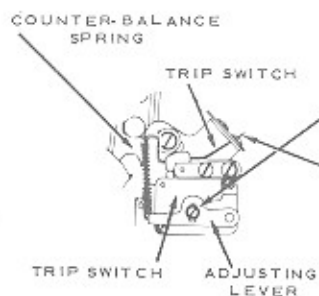
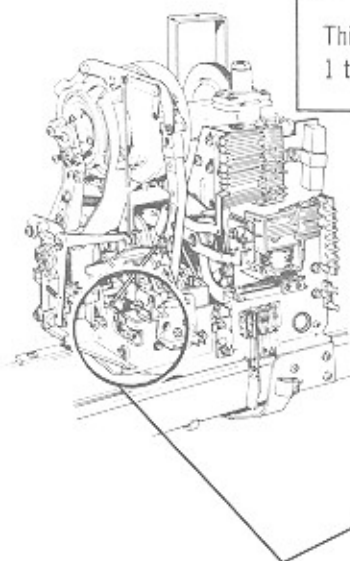
- (A) Place mechanism in PLAY position. Use washer (Part No. 920600) as required to center blade with record. Quantity of washers should be equal on both studs.
- (B) With mechanism in SCAN position, manually operate the release lever to trip.



- (C) Turn motor coupling manually so pawl on brake cam is rotated clockwise until adjacent to lobe on bell crank as shown.
- (D) Position rubber bumper so that (as cam rotates in direction shown) bell crank does not touch hub of pawl. 1/64 inch maximum clearance allowable.
- (E) With rubber bumpers adjusted, as in (D) and with record in PLAY position, clearance between brush blade and record must be not less than 1/8 inch.

"PICKUP 9" - TRIP SWITCH PRESSURE ADJUSTMENT

This adjustment establishes the pressure required to operate the Trip Switch at 1 to 2 grams as measured at the end of the Trip Lever.

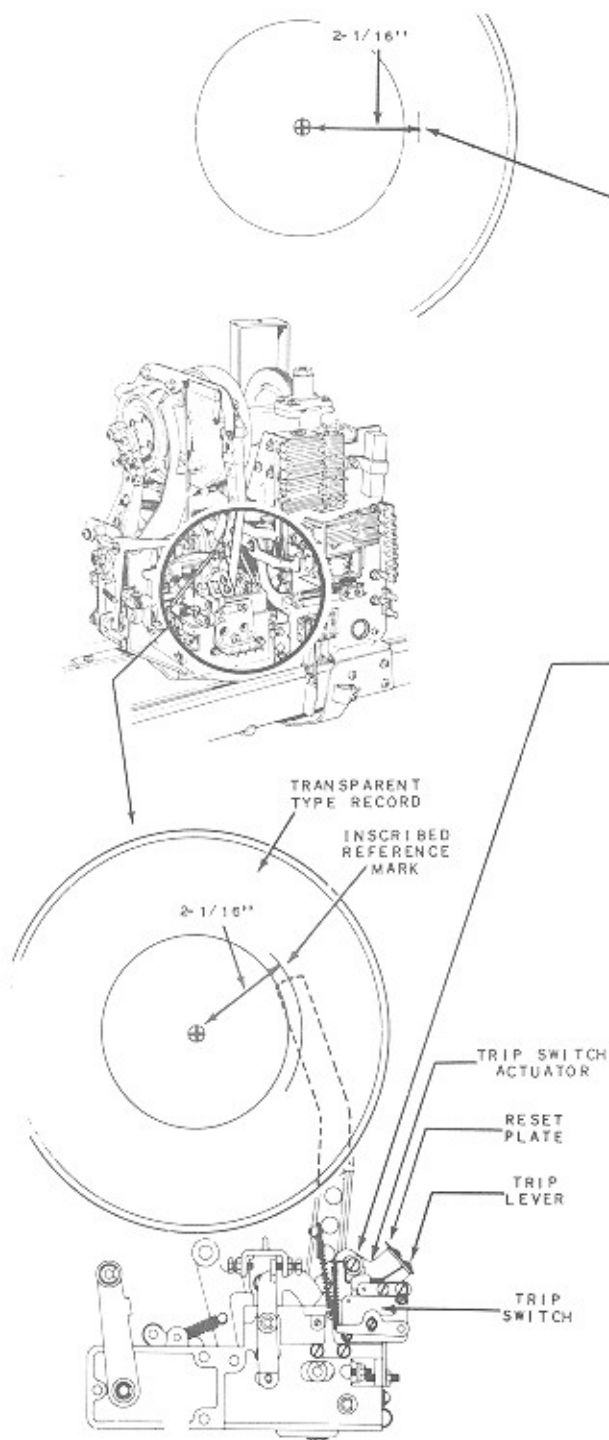


- (A) Loosen screw and adjust Counter-balance Spring by moving Adjusting Lever up or down.
- Pressure required to trip the Switch should be 1 to 2 grams as measured with a gram scale at this point.

SELECT-O-MATIC MECHANISM ADJUSTMENTS

"PICKUP 10" - "RECORD CUT-OFF" (Trip Switch Actuator Adjustment)

This adjustment establishes the "Record Cut-Off" position and results in tripping of the mechanism when the needle has reached a point $2\text{-}1/16$ inch from the edge of the hole in the record.



NOTE: "Pickup 9" adjustment should be correct before making this adjustment.

A Inscribe a line on a record $2\text{-}1/16$ inch away from its center as shown. (Use a transparent type record if available).

B Place mechanism in Right side PLAY position with inscribed record clamped on Flywheel. Turn off power.

C Loosen screw and position Trip Switch Actuator so that Trip Switch will operate when needle reaches inscribed mark.
(DO NOT BEND TRIP LEVER TO MAKE ADJUSTMENT)

D Tighten screw and check for normal operation by playing several Left and Right sides of records.

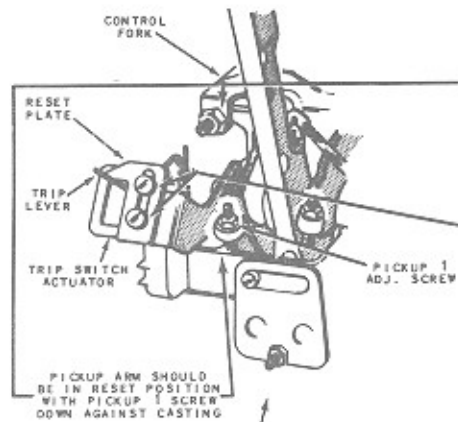
NOTE: If the position of the Trip Switch actuator is changed be sure to readjust and check "Pickup 11".

SELECT-O-MATIC MECHANISM ADJUSTMENTS

"PICKUP 11" - TRIP SWITCH RESET ADJUSTMENT

This adjustment results in proper resetting of the Trip Switch when the Pickup Arm returns to its rest position.

NOTE: "Pickup 9 and 10" adjustments should be correct before making this adjustment.

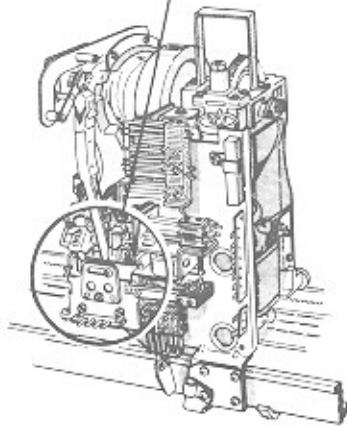


A Place mechanism in PLAY position and pull Control Fork down until Pickup Arm is in its reset position.

B In this position loosen screws and adjust Reset Plate so Trip Switch is fully reset.

When adjusted correctly the Trip Switch should be reset but the Trip Lever should not apply any upward pressure against the reset plate.

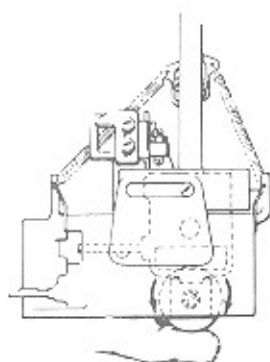
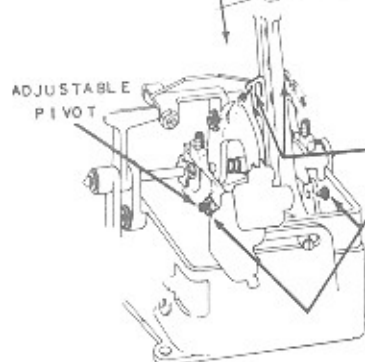
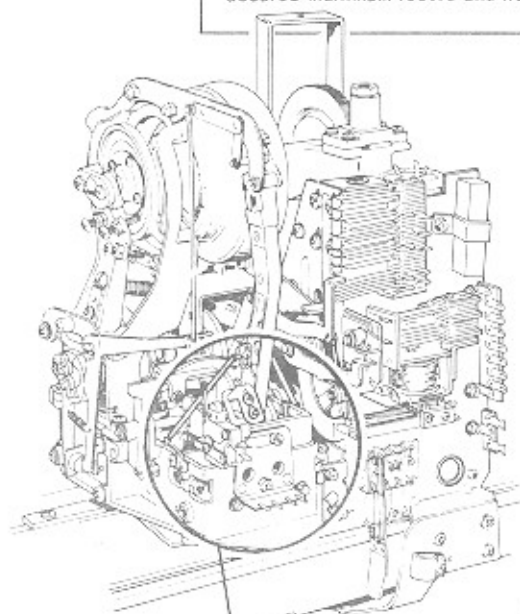
C Check by releasing Control Fork. Needle should land properly on record without "Booster" action from Trip Lever.



SELECT-O-MATIC MECHANISM ADJUSTMENTS

"PICKUP 12" - PICKUP BALANCE ADJUSTMENT

This Adjustment results in proper balancing of the Pickup Arm and Cradle Assembly and assures maximum record and needle life.



NOTE: Before making this adjustment:

1. Check Cradle Pivots for binds. There should be no play but the Arm and Cradle should move freely on the Pivots.
2. Check Pickup lead to be sure it hangs freely below Cradle and does not touch the carriage or at any place along the base casting.

A Place mechanism in PLAY position with a record clamped on Flywheel and turn off power.

B Remove both Needle Pressure Springs.

C Adjust the position of the pickup arm counter-weight so the arm is "in balance" at the record cut-off groove and at a point 1" in from the outer edge of the record.

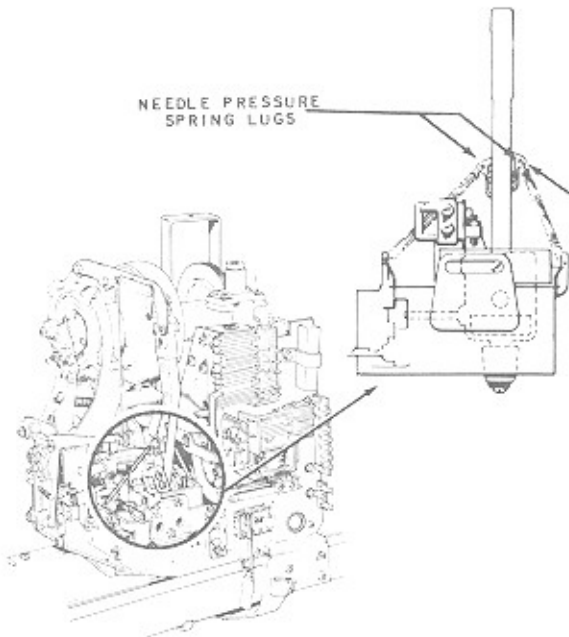
Check the balance by holding the pickup 1/8 inch to 1/4 inch from the record, releasing carefully, and observing the DIRECTION in which it moves. Ignore the slow movement toward or away from the record surface. There should be no *in or out* movement (toward or away from the record center). In or out movement indicates that the pickup arm is not "in balance" at the point of check and requires adjustment of the counter-weight position.

D Replace needle pressure springs and check "Pickup 13" Adjustment.

SELECT-O-MATIC MECHANISM ADJUSTMENTS

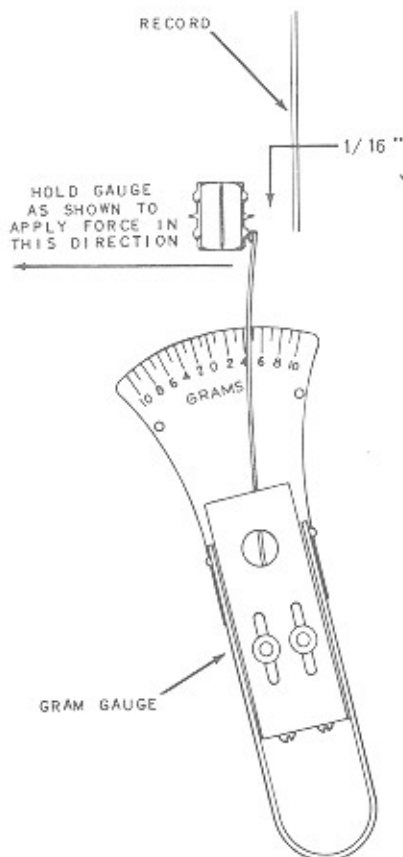
"PICKUP 13" - NEEDLE PRESSURE ADJUSTMENTS

This adjustment establishes the needle pressure at $4\frac{1}{2}$ to $5\frac{1}{2}$ grams for either Right or Left sides. Correct pressures result in proper tracking and in a minimum of needle and record wear.



- A Place mechanism in Left side PLAY position with a flat record clamped on the Flywheel.
- B Turn off power so record is not turning.
- C Adjust position of Pressure Spring Lug on Right side of Pickup Arm so that needle pressure is $4\frac{1}{2}$ to $5\frac{1}{2}$ grams.
- D Repeat same procedure on Right side PLAY position by adjusting the pressure Spring Lug on Left side of the Pickup Arm for $4\frac{1}{2}$ to $5\frac{1}{2}$ grams needle pressure.

NOTE: For accurate adjustment needle pressure should be measured with a gram gauge as follows:

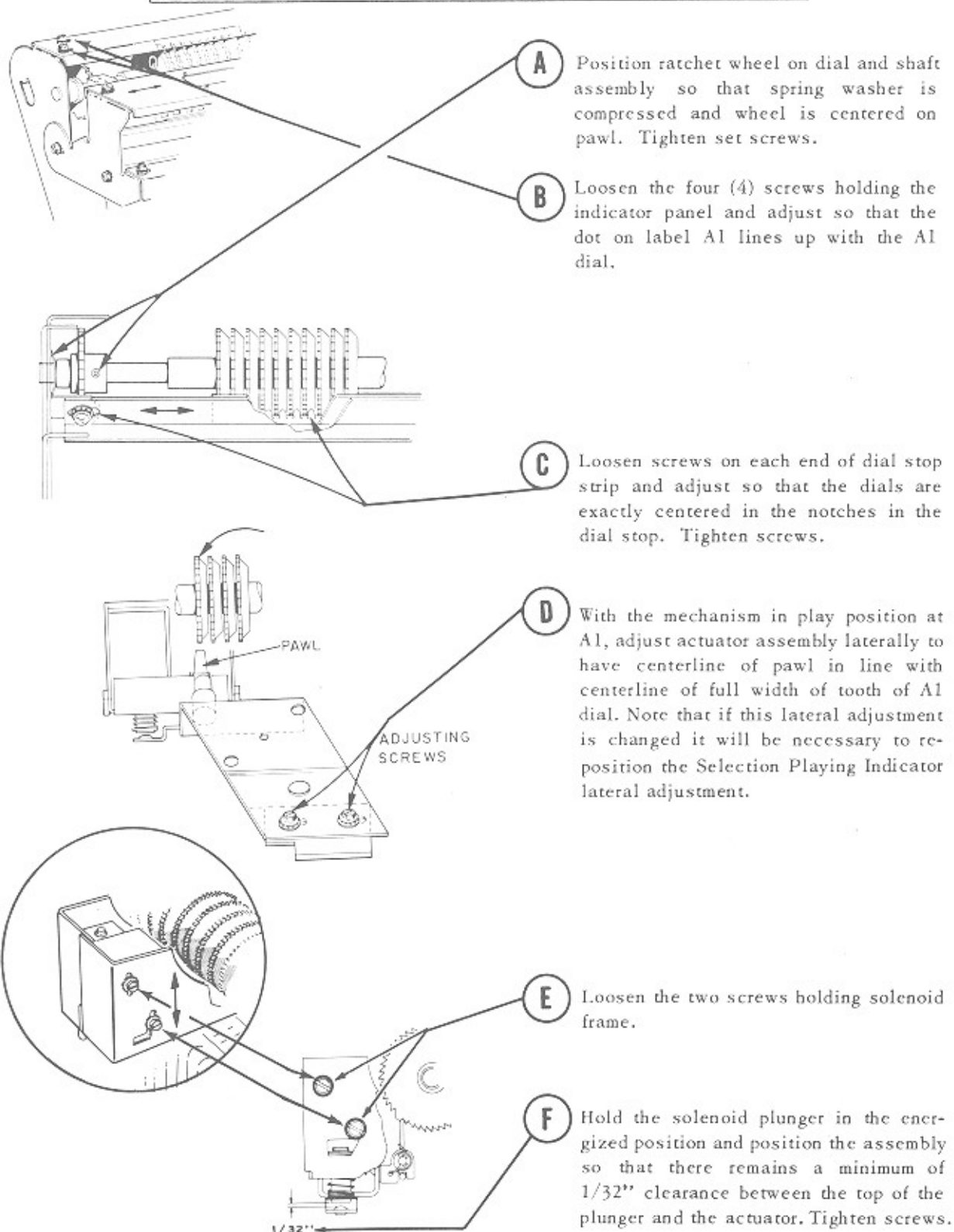


- 1 Place the tip of the gauge spring against the Pickup case at the "Bump" next to the needle tip and lift the Pickup so that needle is about $\frac{1}{4}$ inch from the record.
- 2 Slowly relax the force of the gauge against the Pickup so the needle moves toward the record.
- 3 Stop the inward movement when the needle is about $\frac{1}{16}$ inch from the record and read indicated pressure on gauge. Pressure should be between $4\frac{1}{2}$ and $5\frac{1}{2}$ grams.

SELECT-O-MATIC MECHANISM ADJUSTMENTS

"POPULARITY METER" - DIAL ADJUSTMENT

This adjustment gives proper positioning of dials and operating Solenoid Assembly.

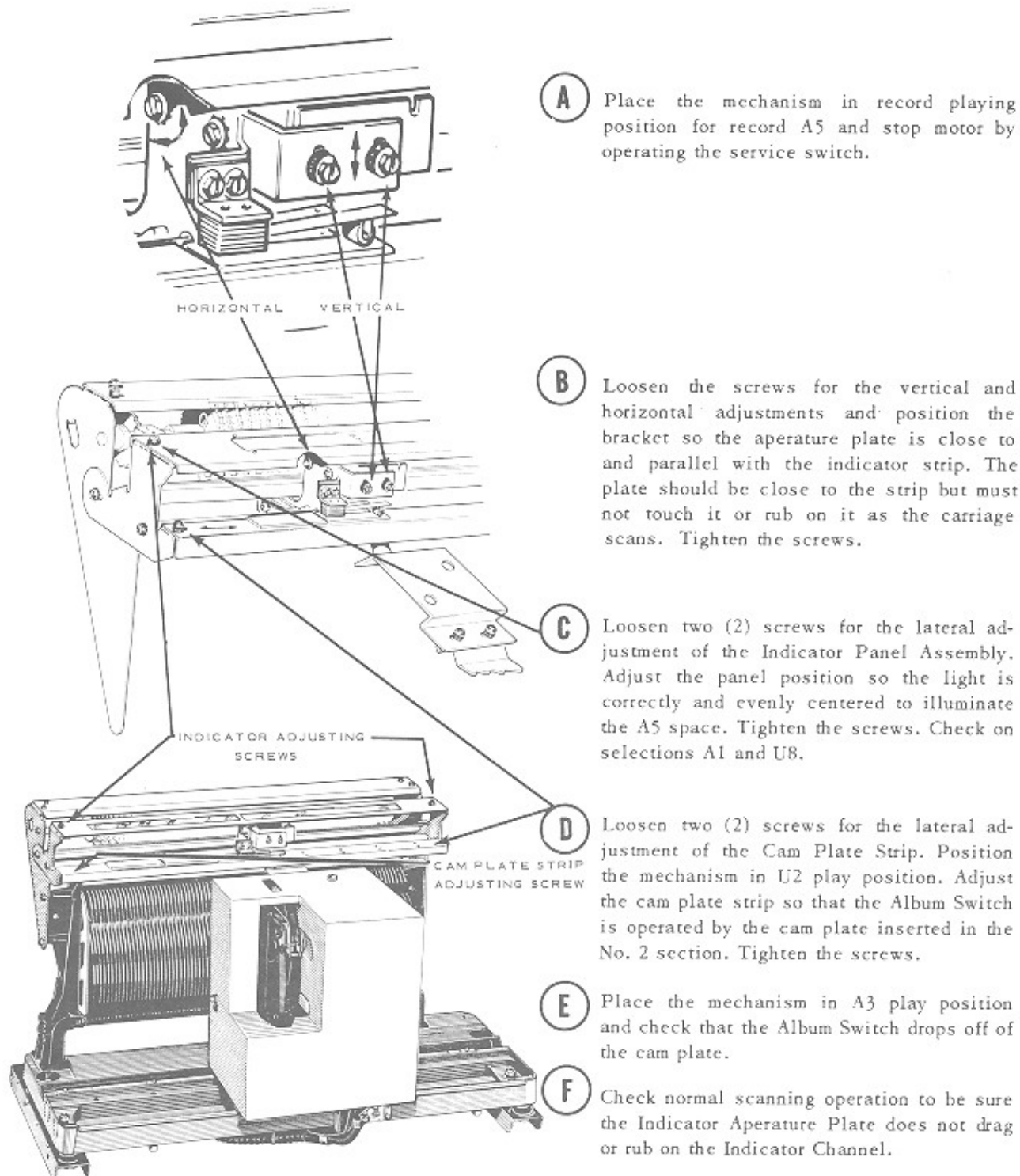


SELECT-O-MATIC MECHANISM ADJUSTMENTS

"SELECTION PLAYING INDICATOR No. 1"

This adjustment aligns the Selection Playing Indicator Lamp for proper indication.

NOTE: Popularity Meter adjustments should be correct before making this adjustment.

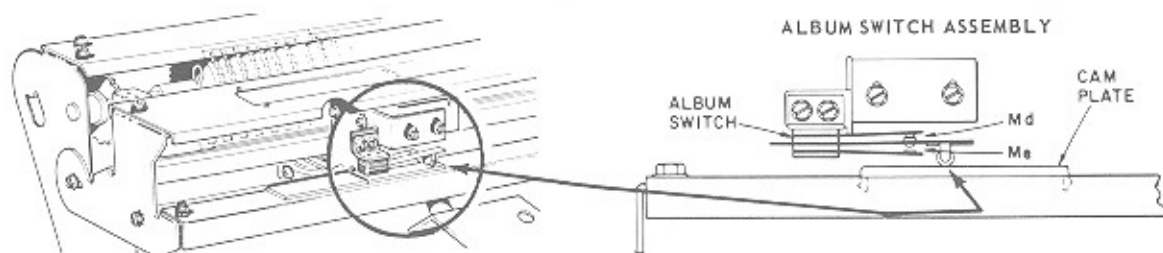


SELECT-O-MATIC MECHANISM ADJUSTMENTS

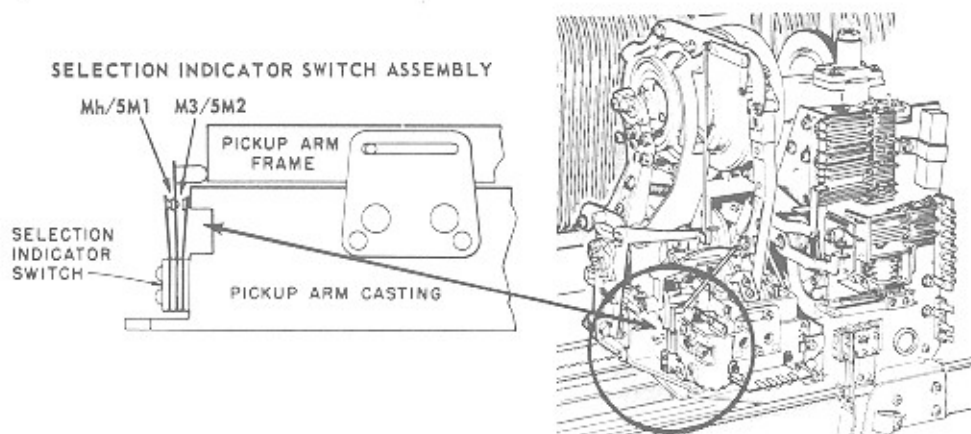
SELECTION PLAYING INDICATOR No. 2 - - - CONTACT GAP AND PRESSURE ADJUSTMENTS

(Used on 13351 and 13353 Mechanisms)

NOTE: Before adjustments are made, position the Album Switch Assembly so that when switch is not actuated by the Cam Plate, the Wiper Blade is horizontal and conforms to items "D" and "E" on page 2504A.



When Album Selections are played the "Md" contacts will close from the action of the Cam Plate on the Album Switch Assembly.



The "Mh/5M1" contacts of the Selection Indicator Switch Assembly will be operated by the Pick-Up Arm Housing when the Pick-Up is shifted to the left side play position.

ADJUSTMENT PROCEDURE

(Album and Selection Switch Assemblies)

1. Position mechanism in Right side single selection play position.
2. Adjust the "Md" contacts for 0.030 gap.
3. Adjust the "Mh/5M1" contacts of the Selection Indicator Switch for 0.015 gap.
4. Check both wiper blades for a minimum of 25 grams of pressure on the closed contact.
5. Position mechanism in Left side Album selection play position.
6. Adjust the "Me" contacts of the Album Switch for 0.030 gap.
7. Adjust the "Mg/5M2" contacts of the Selection Indicator Switch for 0.015 gap.
8. Check both wiper blades for a minimum of 25 grams of pressure on the closed contacts.

CONTACTS	CONTACT GAPS	CONTACT FUNCTIONS
Md	0.030 GAP WHEN MECHANISM IS PLAYING A SINGLE SELECTION.	TRANSFERS SELECTION INDICATOR CIRCUIT TO LEFT SIDE LAMP.
Me	0.030 GAP WHEN MECHANISM IS PLAYING AN ALBUM SELECTION.	COMPLETES THE CIRCUIT TO THE SELECTION INDICATOR SWITCH.
Mh/5M1	0.015 GAP WHEN MECHANISM IS PLAYING THE RIGHT SIDE OF RECORD.	COMPLETES THE CIRCUIT TO THE LEFT SIDE SELECTION LAMP.
Mg/5M2	0.015 GAP WHEN MECHANISM IS PLAYING THE LEFT SIDE OF RECORD.	COMPLETES THE CIRCUIT TO THE RIGHT SIDE SELECTION LAMP.

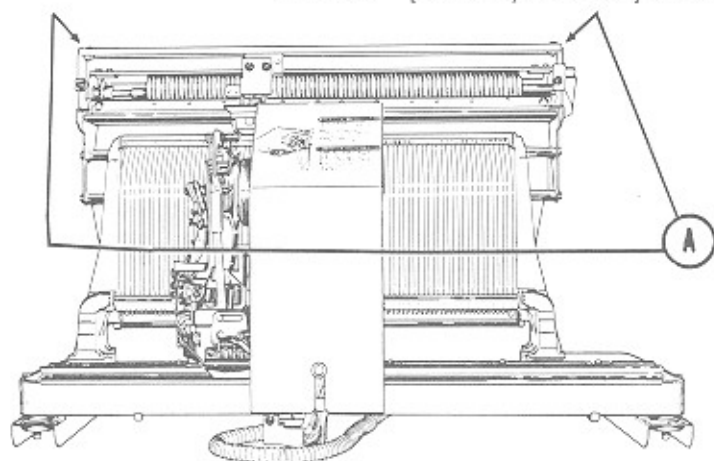
SELECT-O-MATIC MECHANISM ADJUSTMENTS

"READ-OUT DISABLE SWITCH"

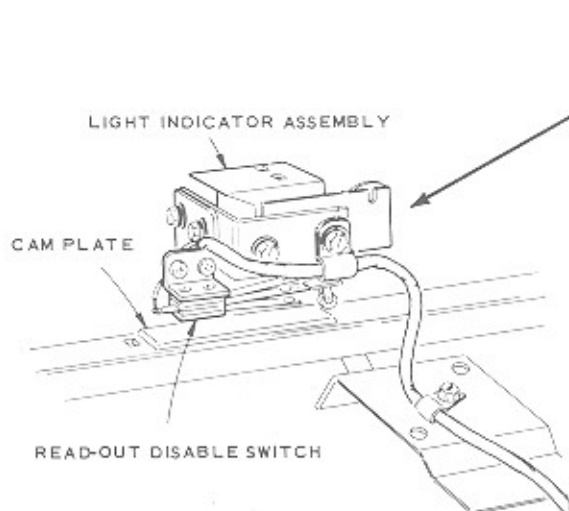
(Used on Type 133S3D and 133S5 Mechanisms)

The Read-Out Disable Switch is opened by Cam Plate action during "Discotheque" record play.

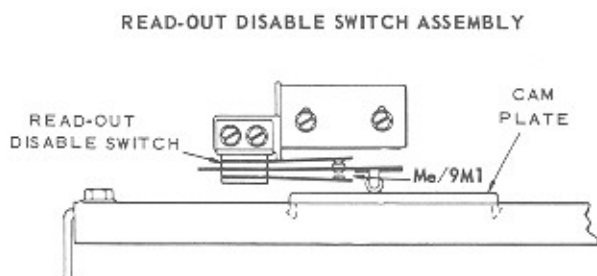
Note: The Discotheque Switch on the rear of the phonograph should be in "normal" position for this adjustment.



Loosen two (2) screws for the lateral adjustment of the Cam Plate Strip. Position the Mechanism in U3 play position. Adjust the Cam Plate Strip so that the Read-Out Disable Switch is operated by the Cam Plate inserted in the No. 3 section. Tighten the screws.



Place the mechanism in A4 play position and check that the Read-Out Disable Switch drops off of the Cam Plate.



C Position the Mechanism in a "Discotheque" selection play position.

D Adjust the "Me/9M1" contacts of the Read-Out Disable Switch for 0.030 gap.

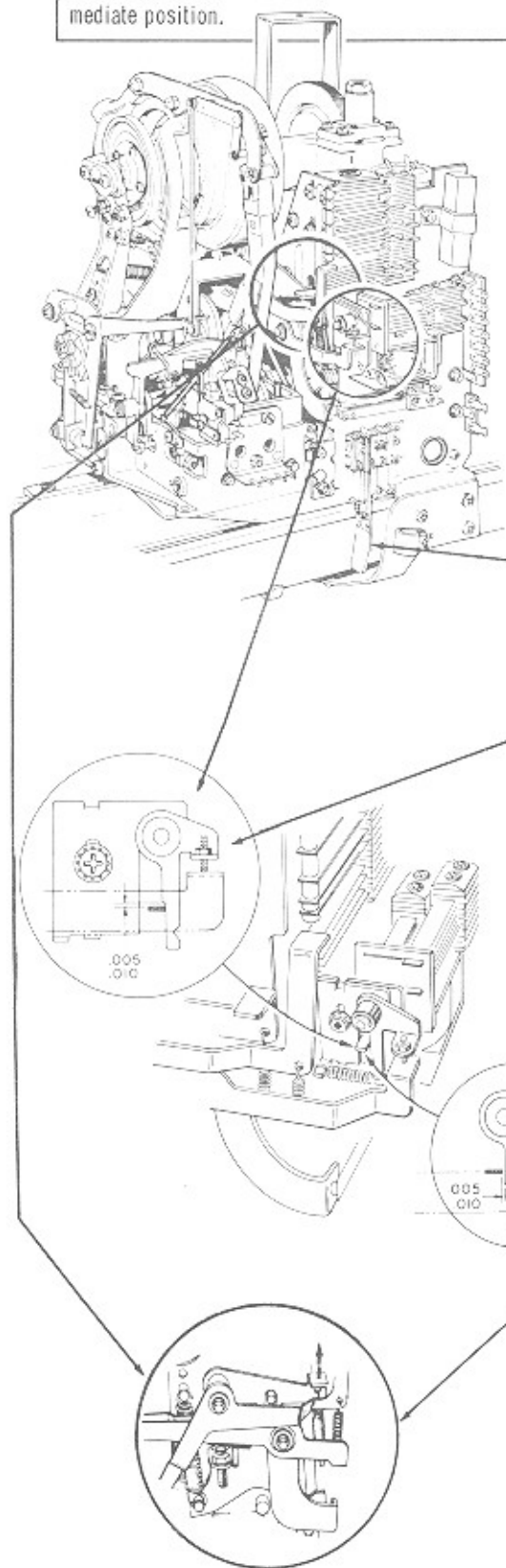
E Position the mechanism in a "Single" selection play position.

F Check wiper blade of "Me/9M1" contact for a minimum of 25 grams of pressure.

SELECT-O-MATIC MECHANISM ADJUSTMENTS

"REVERSING RELAY LATCH LEVER"

This adjustment positions the Reversing Relay Latch Lever so the relay will remain in the energized position during right side play and return of the record to the magazine but will release the Relay when the clutch drops to the intermediate position.

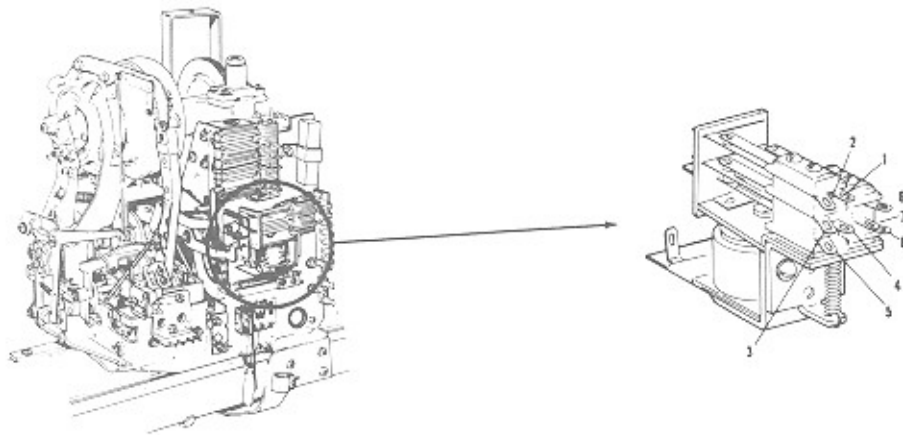


NOTE: This adjustment is affected by Clutch 2, 3 and 4 which should be known to be correct and their adjusting screws securely locked. Changing the Latch Lever adjustment may require readjustment of the Reversing Relay contacts.

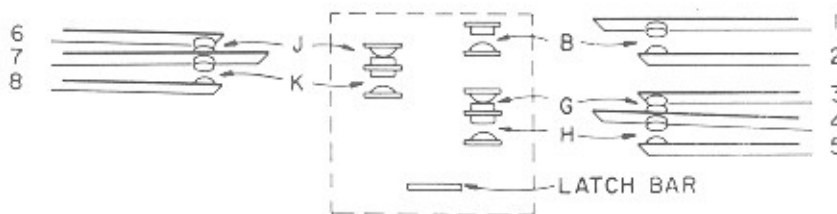
- (A)** Place the mechanism in play position for right side play at A5.
- (B)** Move the service switch to OFF position and operate the service switch "free play" switch twice so motor is turned off and turntable stops.
- (C)** Electrically energize the reversing relay. This is done by moving the reversing switch lever to the left.
- (D)** Loosen the screw holding the Latch Lever bracket and position the bracket for .005" to .010" gap between the Latch Lever and the relay armature latch bar. Tighten the screw and check the gap.
- (E)** De-energize the relay by moving the reversing switch lever to the right.
- (F)** Trip the mechanism by lifting the release lever and manually turn the motor shaft so the TURNTABLE ROTATES COUNTER-CLOCKWISE until the clutch drops toward Scan position. (The mechanism will not go into Scan position because of the Clutch Engaging Member).
- (G)** Loosen the locknut and adjust screw so the Latch Lever clears the relay armature latch bar .005" to .010". Tighten the locknut.
- (H)** Check Reversing Relay contact adjustment.

SELECT-O-MATIC MECHANISM ADJUSTMENTS

REVERSING RELAY - CONTACT GAP AND PRESSURE ADJUSTMENTS



CONTACTS J, K, G, & H - MOTOR CIRCUIT
CONTACT B - RIGHT SIDE RELAY HOLD CIRCUIT
COIL RESISTANCE (D.C.) - 24 OHMS $\pm 10\%$

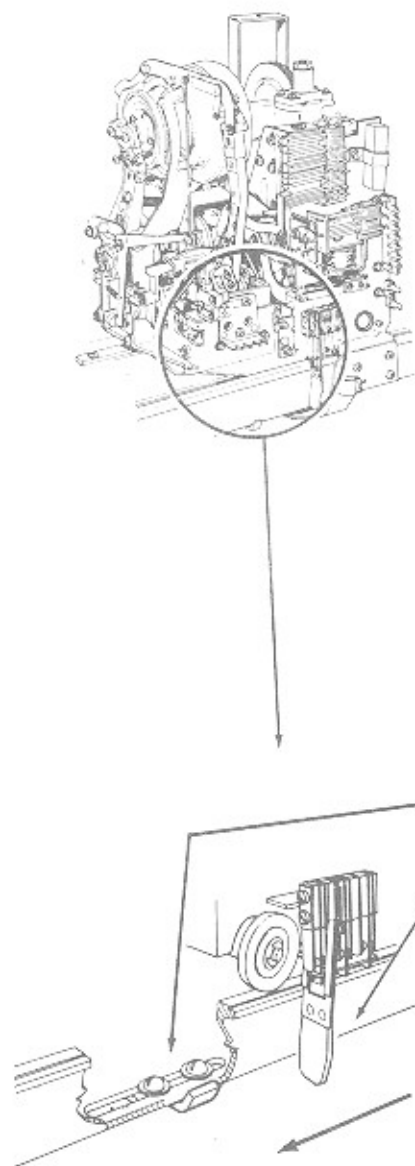


- A. Armature travel should be 1/16 inch measured between armature and armature back stop when relay is energized.
- B. Short blades should move 1/64 inch when contacts make and break and bracers must support their respective contact blades.
- C. Contact gap should be 1/32 inch as measured between J, G and B contacts when K and H are just opening. Check by manually releasing relay from energized position.
- D. Long blades must touch the bottom of their respective slots in the lift when J, G and B are just closing.
- E. Check that H and K contacts are closed when relay is held in energized position by latch lever.

SELECT-O-MATIC MECHANISM ADJUSTMENTS

"REVERSING SWITCH 1" - SWITCH BRACKETS

This adjustment positions the Reversing Switch Brackets so the Switch operates when the carriage is $5/16$ inch past the end record positions.



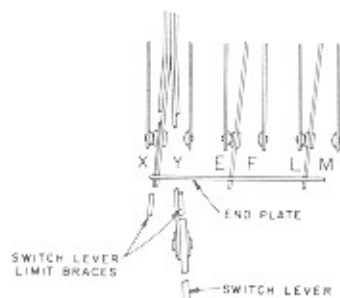
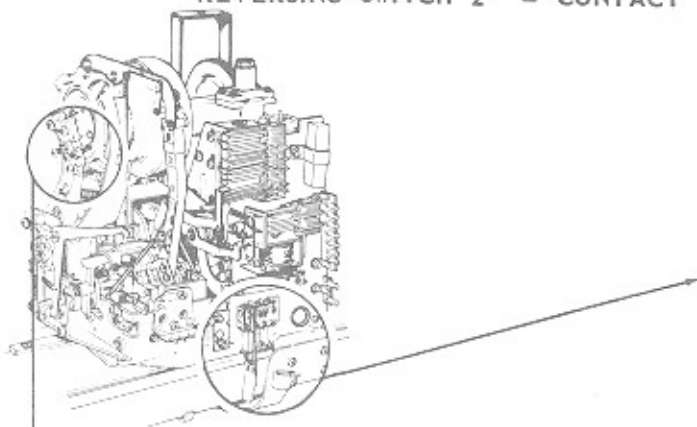
- A Loosen screws holding left Reversing Switch Bracket and move Bracket all the way to the left.
- B Select A1 and turn off power when selection is playing.
- C Make a reference mark on the base casting to indicate the record position of the carriage.
- D Move the reversing switch lever so it is toward the left as shown.
- E Return mechanism to SCAN and turn the motor shaft manually until the mechanism has moved $5/16$ inch to the LEFT of the reference mark made on the base.
- F Move the Bracket slowly and carefully to the right until it is at the point where the reversing switch operates.
- G Scan the carriage out of the way to the right, being careful not to move the Bracket, and tighten the bracket holding screws.
- H Adjust the RIGHT Reversing Switch Bracket so the Switch operates when the carriage is $5/16$ inch to the RIGHT of the record position at the right hand end of the magazine.

See "Reversing Switch 2" for contact gap adjustment, Page 2508.

REFERENCE SCALE
THESE LINES
SPACED $1/16$ "
ACTUAL SIZE

SELECT-O-MATIC MECHANISM ADJUSTMENTS

"REVERSING SWITCH 2" - CONTACT GAP AND PRESSURE ADJUSTMENTS



CONTACTS	CONTACT GAPS	CONTACT FUNCTIONS
M	1/16" clearance when Switch Lever is to Right.	Grounds Read-Out Pulse while carriage scans to Left.
L	1/16" clearance when Switch Lever is to Left.	Opens Left Side and Right Side relays while carriage scans to Left.
F	1/16" clearance when Switch Lever is to Right.	Completes circuit to Reversing Relay for Right-To-Left scanning.
E	1/16" clearance when Switch Lever is to Left.	Opens Trip Solenoid Circuit while carriage scans to Left.
Y	1/16" clearance when Switch Lever is to Right.	Disables Mechanism Play Control Subtract Switch while carriage scans to Right.
X	1/16" clearance when Switch Lever is to Left.	Not Used.

ADJUSTMENT PROCEDURE: (Reversing Switch)

- Remove the small double ended coil spring so the switch actuating lever is not biased in either direction.
- With the spring removed, as in A, adjust the switch lever limit bracers so the blue steel part of the lever is centered between them, and their lower ends are spaced 5/32 inch.
- With the spring removed, as in A, adjust the six stationary blades so they bear against their bracer blades with 2 ounce pressure and there is a 1/32 inch gap between the center blade contacts and the contacts at each side.
- Replace the coil spring and check switch operation. Moving blades should snap to opposite position when blue steel blade just touches a limit bracer. Contacts should be closed with 1 1/2 ounce minimum pressure and approximately 1/16 inch gap between contacts on opposite sides of moving blades.

"CLAMP ARM SWITCH" - CONTACT GAP AND BLADE PRESSURE ADJUSTMENT

This switch controls power relay in the Auto-Speed Unit when intermixed 33-1/3 and 45 rpm. records are played.



ADJUSTING SCREW

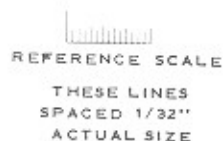


CLAMP ARM SWITCH IS SHOWN IN PLAY POSITION WITH 33-1/3 R.P.M. RECORDS.

ADJUSTMENTS

"S" contact has 1/32 inch gap in play position with standard 33-1/3 rpm. record clamped on turntable and is closed when 45 rpm. record is being played.

CONTACT MUST HAVE 25 GRAMS (1 OZ.) MINIMUM PRESSURE WHEN CLOSED.

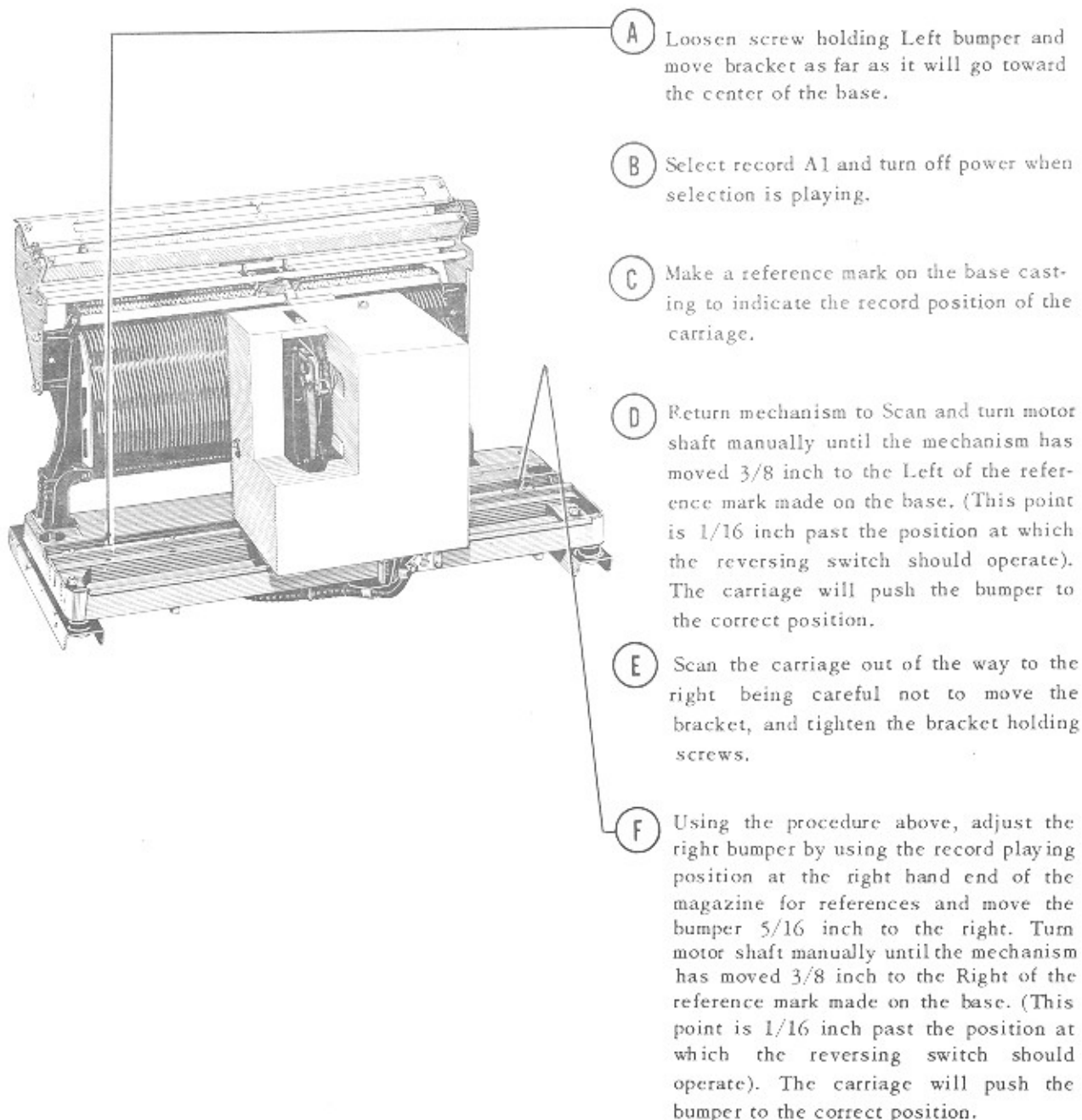


SELECT-O-MATIC MECHANISM ADJUSTMENTS

"RUBBER BUMPERS"

This adjustment positions the rubber bumpers so the lateral carriage movement is limited to avoid damaging of the reversing switch and contact plunger block.

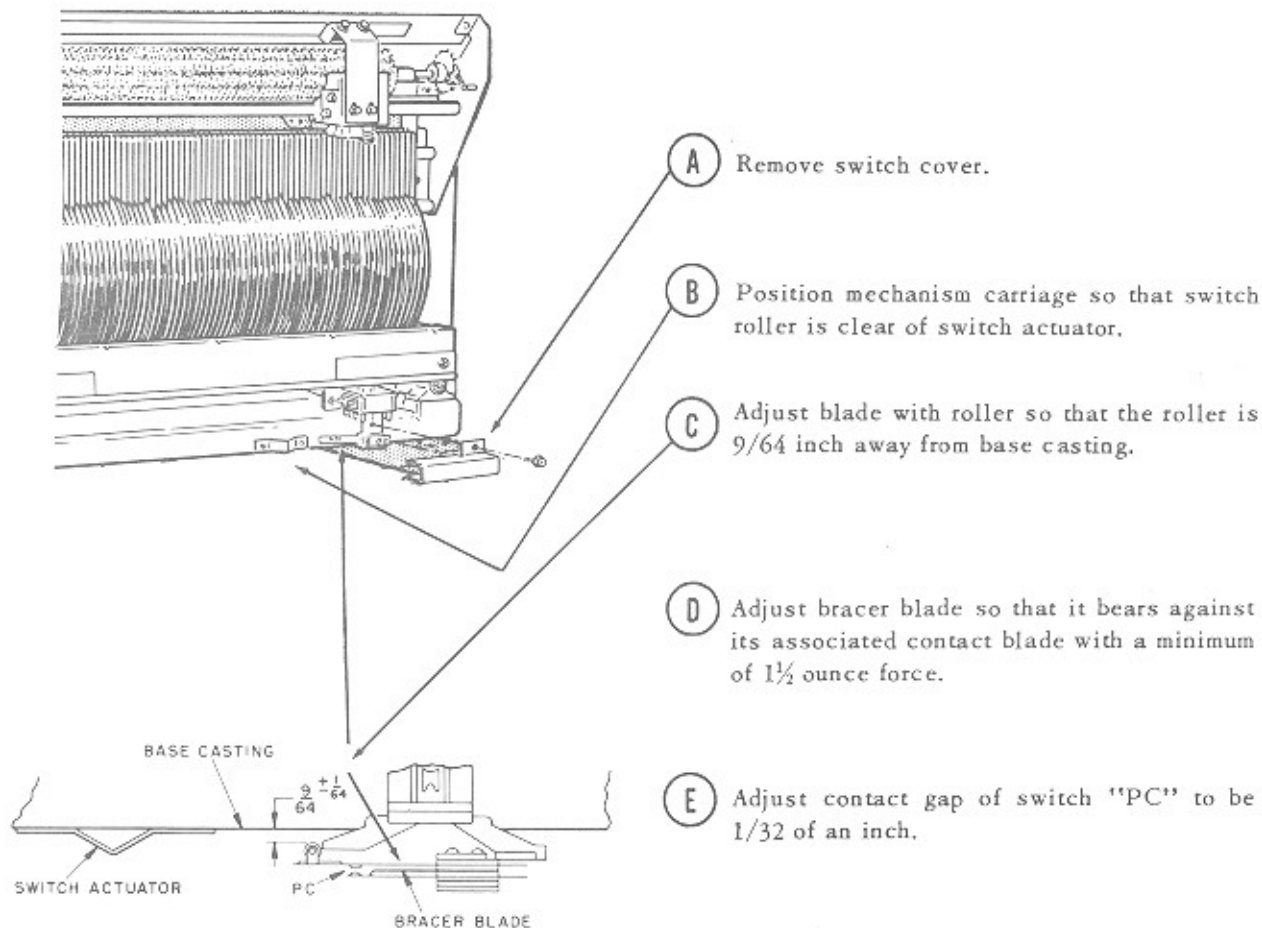
NOTE: The reversing Switch Bracket Adjustment MUST BE CORRECT before making this adjustment.



SELECT-O-MATIC MECHANISM ADJUSTMENTS

"PLAY CONTROL SUBTRACT SWITCH"

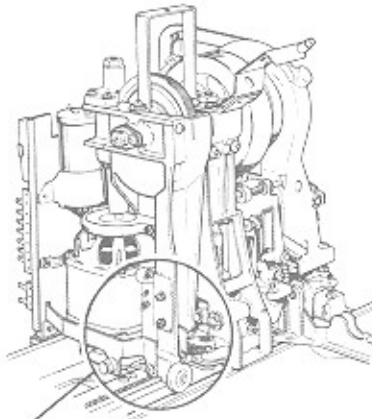
This switch closes momentarily when the carriage scans to the right or left and is operated by an actuator near the left side of the mechanism. It operates the play control subtract solenoid but is in series with the Y contacts of the reversing switch. The Y contacts are closed only when the carriage is scanning toward the left so this switch is effective only as the carriage approaches the left side of the mechanism.



NOTE: When switch cover is replaced, make certain that switch blades and roller bracket do not touch cover and that cover does not strike switch actuator as mechanism is scanning.

SELECT-O-MATIC MECHANISM ADJUSTMENTS

'DETENT SWITCH' - CONTACT GAP AND PRESSURE ADJUSTMENT



A Remove cover from switch stack.

B Place phonograph service switch in "OFF" position and turn motor coupling manually until actuator roller is engaged as shown.



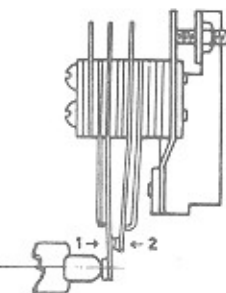
C Form bracer blades for $\frac{1}{32}$ inch contact gap between blades 1 and 2. Maintain a bracer blade follow of at least .015" for each bracer blade.

NOTE: Do not bend contact blades in making this adjustment; bend only the bracer blades.



D Turn motor coupling so that actuator roller is on peak of sprocket tooth.

E Position Detent Switch on its mounting bracket so its actuator arm engages the center of the nylon fibre lift on the detent switch blade.

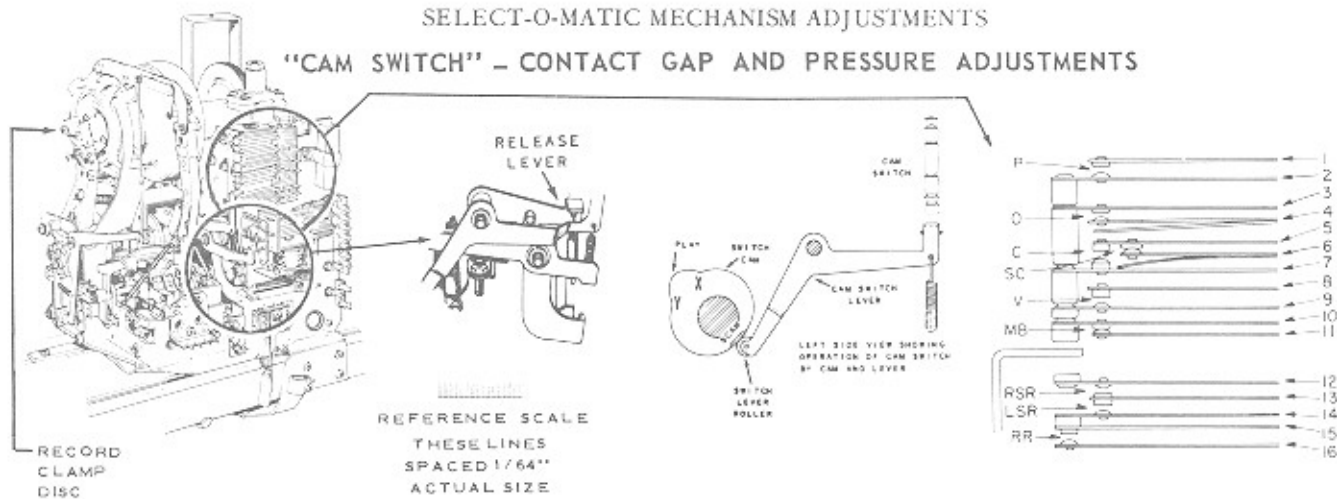


SWITCH
ACTUATOR

F Loosen hex nut on adjusting screw and turn the screw clockwise until switch contacts are open. Back off screw until contacts are just closed. Complete adjustment by continuing to turn the screw counter-clockwise 1 turn exactly. Tighten hex nut without turning screw. Contact pressure should now be 2 ounces minimum.

SELECT-O-MATIC MECHANISM ADJUSTMENTS

"CAM SWITCH" - CONTACT GAP AND PRESSURE ADJUSTMENTS



CONTACTS	CONTACT GAP	CONTACT FUNCTIONS
MB	1/32" gap in PLAY position. Starts to open when pickup approaches record. Closed in SCAN position.	In Mute Relay circuit. Is in parallel with Trip Switch. Holds Relay energized in SCAN and record transfer.
O	3/64" gap in PLAY position. Closed in TRANSFER and SCAN.	Adds 1.4 mfd. condenser to motor circuit during TRANSFER and SCAN.
SC	1/64" gap in PLAY position. Closed in SCAN position.	Part of popularity meter solenoid circuit. Just before the mechanism enters PLAY position the C and SC contacts "Make and Break" controlling the pulse to the popularity meter solenoid.
C	1/32" gap in SCAN and during most of TRANSFER. Starts to close when record Clamp Disc first engages the turntable.	
V	1/32" gap in SCAN and during most of TRANSFER.	Trip Solenoid Circuit. Completes all circuits which can operate Trip Solenoid in PLAY position.
P	1/32" gap in SCAN. Closed only in PLAY.	In series with clamp arm switch, it completes power relay circuit in Auto-Speed Unit.
RSR	1/32" gap in PLAY position. Closed in SCAN position.	In holding circuit for Right Side relay.
LSR	1/32" gap in PLAY position. Closed in SCAN position.	In holding circuit for Left Side relay.
RR	1/16" gap PLAY position. Closed in SCAN position.	Closes to energize Reverse Relay for playing Right Side of record.

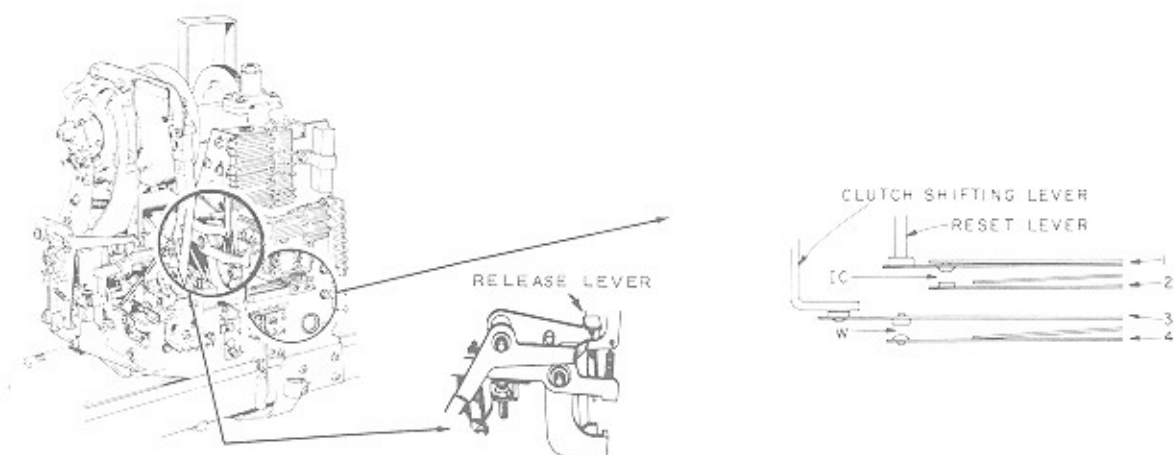
ADJUSTMENT PROCEDURE:

1. Place mechanism in SCAN position and TURN OFF POWER.
2. Trip mechanism by lifting Release Lever and manually turn motor shaft until the tip of the centering pin of the Record Clamp Disc first engages the Turntable (This places cam so Switch Lever Roller is at position X).
 - A. Bias plastic lift of blade 10 against switch lever (1½ ounce pressure).
 - B. Bias lift of blade 9 against blade 10.
 - C. Bias lift of blade 7 against blade 9.
 - D. Adjust blade 8 for 1/32 inch gap between V contacts.
 - E. Bias blade 3 down so lift touches blade 7.
 - F. With SC contacts closed (1½ ounce pressure), adjust for 1/32 inch gap in C contacts.
 - G. Adjust blade 12 so its lift is just touching switch lever.
 - H. Adjust blades 13, 14 and 15, so 15 is against the lift on 14 and there is 1/32 inch gap between contacts RSR and LSR.
 - I. Adjust blade 16 for 1/16 inch gap in RR contacts.
3. Turn the motor shaft so the mechanism moves toward

PLAY position until the V contacts are just closing.

- A. Adjust blade 11 for 1/64 inch gap in MB contacts (MB contacts must open before V contacts close as mechanism transfers a record to PLAY position).
4. Turn motor shaft so the mechanism is fully in PLAY position.
 - A. Adjust blade 4 for 3/64 inch gap in O contacts.
 - B. Adjust blade 6 for 1/64 inch gap in SC contacts.
5. Trip mechanism by lifting Release Lever and manually turn motor shaft until Clamp Disc begins movement away from Turntable (This places cam so Switch Lever Roller is at position Y).
 - A. Check for 1/32 inch gap in C contacts with SC closed (1½ ounce pressure).
 - B. Check to see that lift of blade 10 bears against Switch Lever.
 - C. Check for 1/32 inch gap in V contacts.
6. Operate mechanism until it is in SCAN position.
 - A. Adjust blade 2 so its lift bears against blade 3.
 - B. Adjust blade 1 so there is 1/32 inch gap between P contacts.

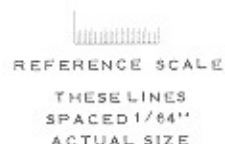
SELECT-O-MATIC MECHANISM ADJUSTMENTS
 "CLUTCH AND RESET LEVER SWITCHES"
 CONTACT GAP AND PRESSURE ADJUSTMENT



NOTE: "Clutch 1" to "4" Mechanical Adjustments must be correct before adjusting these switches.

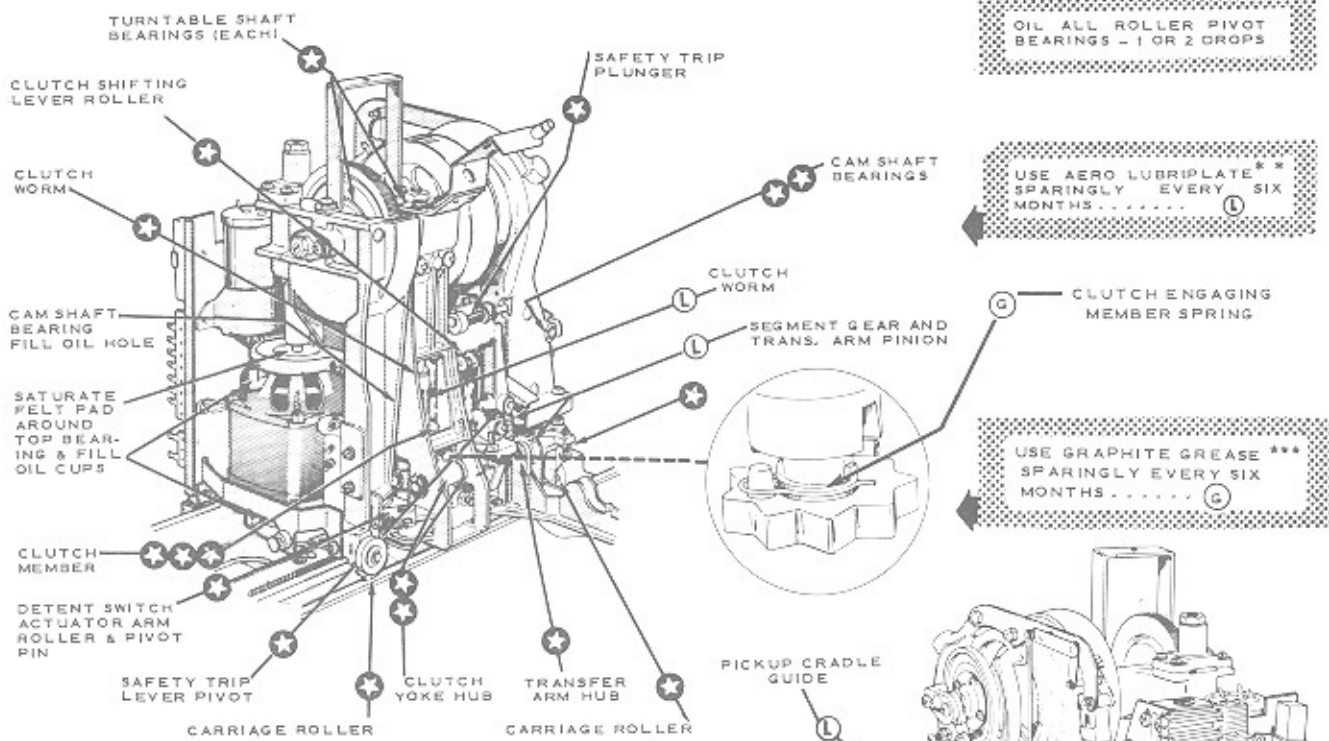
CONTACTS	CONTACT GAPS	CONTACT FUNCTIONS
IC	3/64" gap when mechanism trips. Closed in SCAN and PLAY positions.	Allows operation of Popularity Meter Solenoid when mechanism is transferring into PLAY position but prevents "Extra" operation when mechanism is transferring out of PLAY position. Also opens ground return of Auto-Speed Unit power control relay circuit.
W	1/64" gap in PLAY position. Closed 1½ oz. pressure in SCAN position.	Part of Trip Solenoid Circuit. Opens circuit when mechanism trips from SCAN position.

ADJUSTMENT PROCEDURE:



- 1 Place mechanism in SCAN position and TURN OFF POWER.
- 2 Trip by manually lifting Release Lever. While mechanism is in this position:
 - A Bias blade 1 to within 1/16 inch of Reset Lever.
 - B Bias blade 2 against bracer blade and adjust blade 2 for 1/16 inch gap between IC contacts.
- 3 With mechanism tripped as in step 2, turn motor shaft manually until mechanism is in PLAY position.
 - A Bias blade 3 so its lift bears against Clutch Shifting Lever with 1½ ounce pressure.
 - B Bias blade 4 against its bracer blade and adjust bracer blade for 1/64 inch gap between W contacts.

LUBRICATION CHART

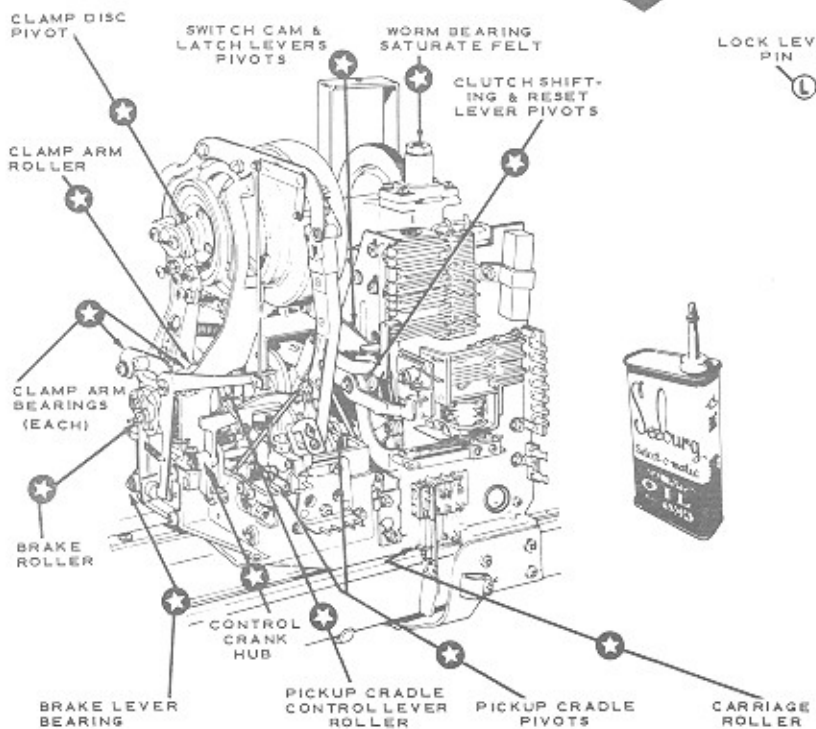
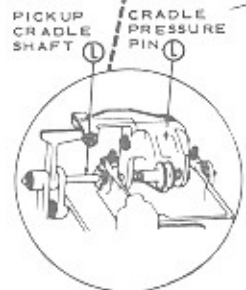
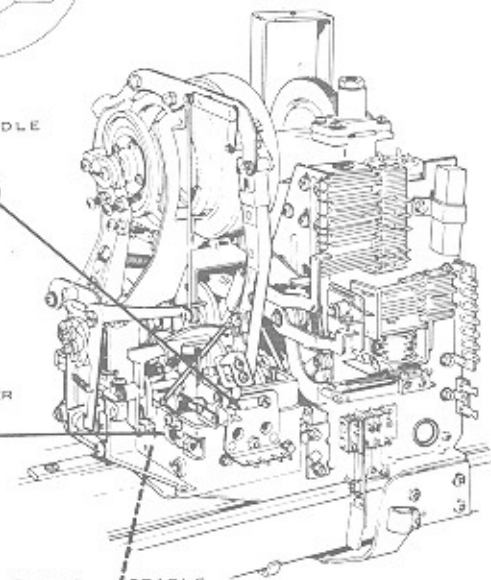


OIL ALL ROLLER PIVOT BEARINGS - 1 OR 2 DROPS

USE AERO LUBRIPLATE** SPARINGLY EVERY SIX MONTHS..... (L)

USE GRAPHITE GREASE*** SPARINGLY EVERY SIX MONTHS..... (G)

USE SEEBURG SPECIAL PURPOSE OIL * EVERY SIX MONTHS IN AMOUNT SHOWN 1 DROP FOR EACH *



*SEEBURG SPECIAL PURPOSE OIL NO. 53014 MAY BE OBTAINED FROM YOUR SERVICE PARTS DEPARTMENT AT YOUR DISTRIBUTOR.

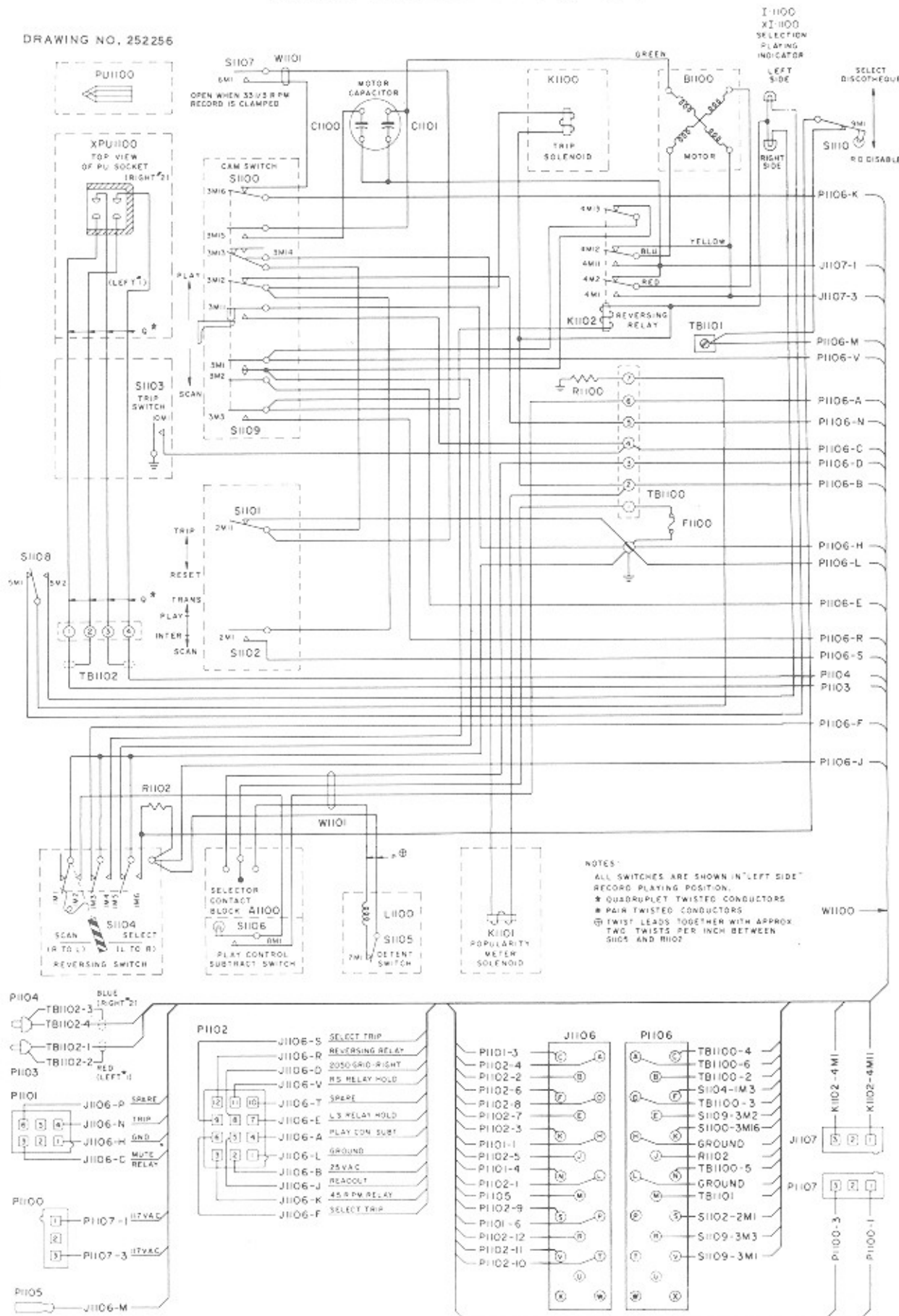
**AERO LUBRIPLATE MAY BE OBTAINED FROM YOUR SERVICE PARTS DEPARTMENT AT YOUR DISTRIBUTOR.

***LUBRICATE CLUTCH ENGAGING MEMBER SPRING USING GRAPHITE GREASE, EVERY SIX MONTHS, SEEBURG PART NO. 53002 OBTAINED FROM YOUR SERVICE PARTS DEPARTMENT AT YOUR DISTRIBUTOR.

SELECT-O-MATIC MECHANISM, Type 133S5

PARTS LIST
on Reverse Side

DRAWING NO. 252256



SELECT-O-MATIC MECHANISM, Type 133S5

- Schematic Parts List -

Item	Part No.	Description
A1100	252082	Contact Block Assembly
B1100	252413	Motor Assembly
C1100	{ 86321 }	0.75 Mfd. Motor Capacitor
C1101		1.65 Mfd. Motor Capacitor
F1100	247850	5 Amp. Fuse
I 1100	507522	Indicator Lamp
J 1106	309367	Connector Housing
J 1107	309340	Socket Housing
K1100	245578	Trip Solenoid
K1101	252228	Popularity Meter Solenoid
K1102	245939	Reversing Relay
L1100	303702	Choke 100 Micro Henry
P1100	309351	(3) Contact Cap
P1101	309352	(6) Contact Cap
P1102	309354	(12) Contact Cap
P1103 }	252922	Single Prong Plug
P1104 }		
P1105 }	132054	Receptacle
	941823	Sleeve
P1106	309368	Connector Housing
P1107	309351	(3) Contact Cap
PU1100	249755	Magnetic Pickup
R1100	81248	190 Ohm 5 W., ±5%
R1102	82432	4700 Ohm, ½ W., ±10%
S 1100	252926	Cam Switch
S1101 }	252927	{ Reset Lever Switch Clutch Switch
S1102 }		
S 1103	245816	Trip Switch
S 1104	247846	Reversing Switch Assembly
S 1105	249235	Detent Switch
S 1106	248127	Play Control Subtract Sw.
S 1107	252409	Clamp Arm Switch
S 1108	252720	Selection Indicator Switch
S 1109	252910	Lower Cam Switch
S 1110	252246	Switch Assembly
TB1100	305113	Terminal Strip
TB1101	452152	Terminal Strip
TB1102	305112	Terminal Strip
W1100	252957	Control Cable
W1101	252923	Internal Cable
XI 1100	252224	Light Bracket Socket Assembly
XPU 1100	249727	PU Cartridge Socket Assembly

SELECT-O-MATIC MECHANISM, Type 133S5

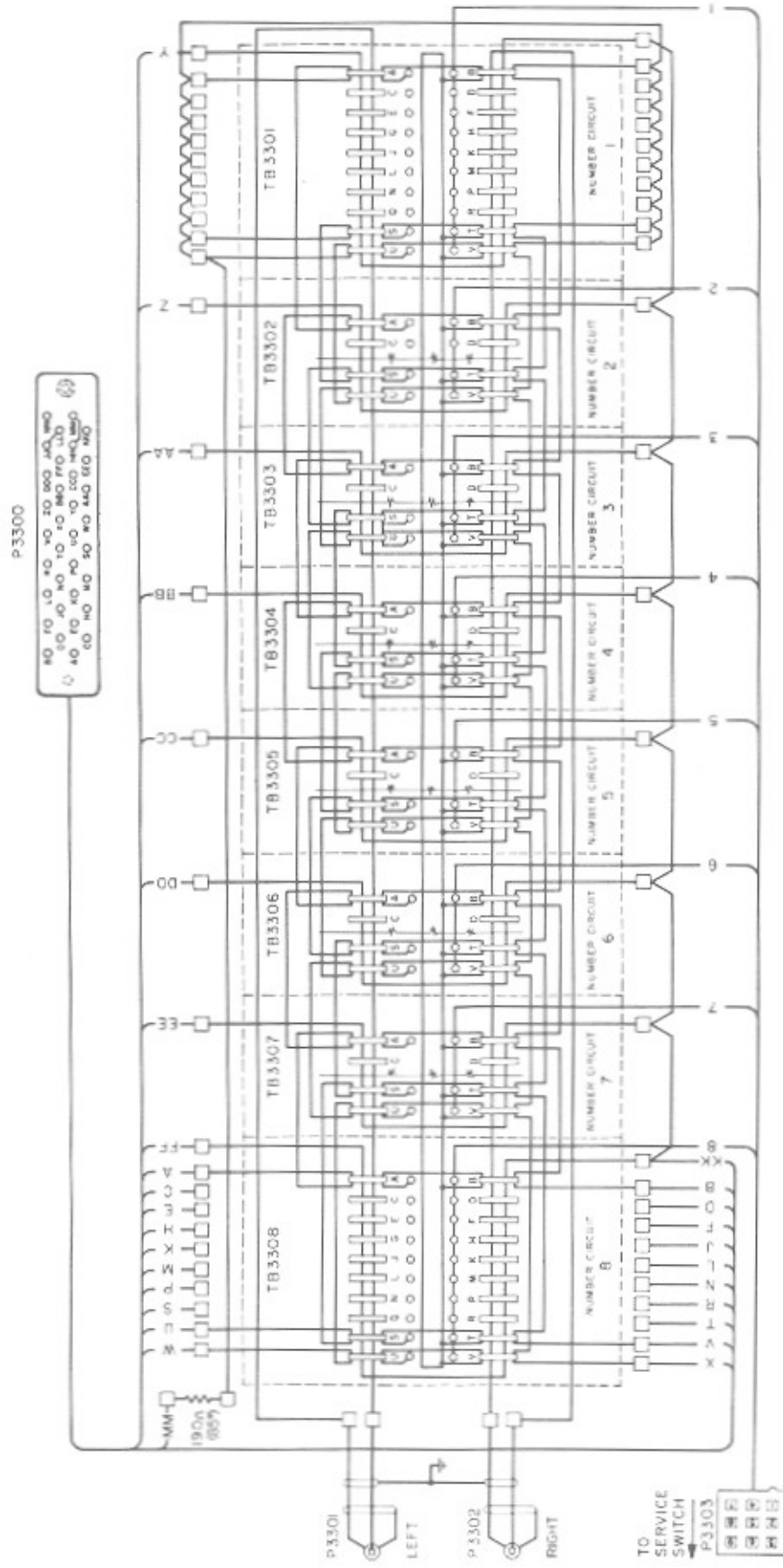
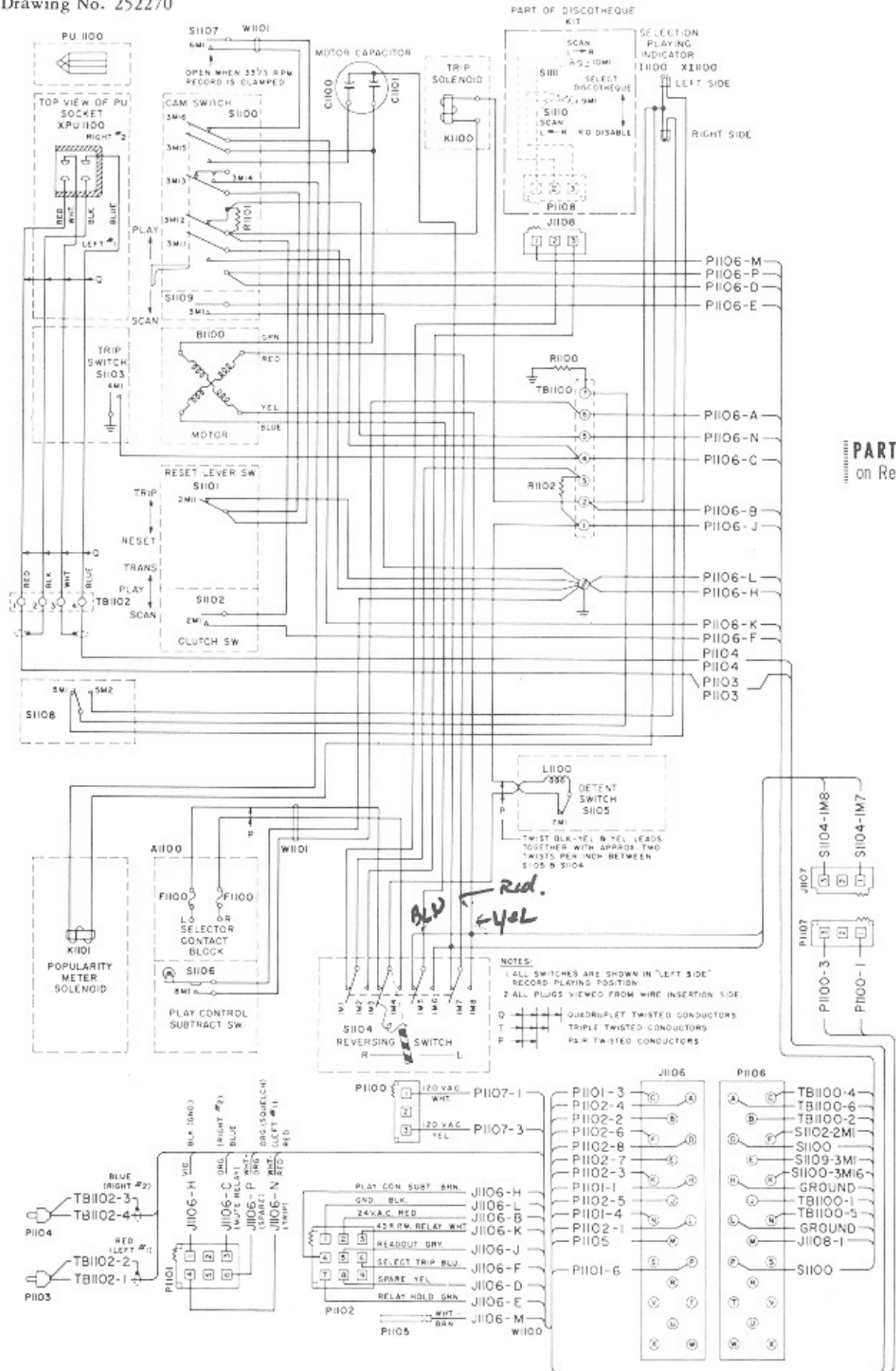


DIAGRAM - TORMAT MEMORY UNIT, Type 160TM4

SELECT-O-MATIC MECHANISM

Drawing No. 252270

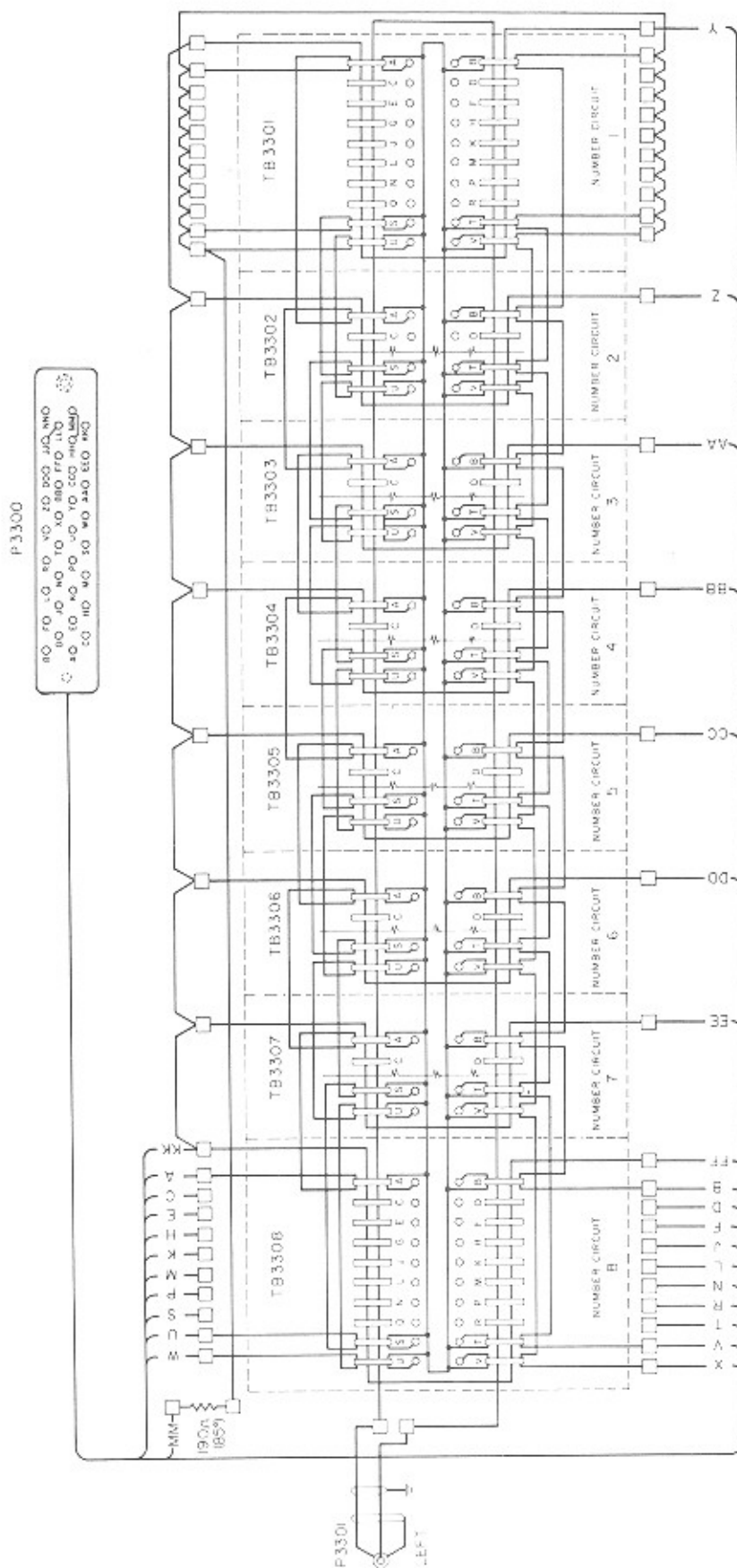


Schematic Diagram for Select-O-Matic Mechanism, Type 133S4.

SELECT-O-MATIC MECHANISM

Item	Part No.	Description	Item	Part No.	Description
A1100	249829	Contact Block Assembly	P1107	309351	(3) Pin Cap Housing
B1100	252413	Motor	P1108	770390	Pin Housing
C1100	86321	1.65 Mfd. Motor Capacitor	PU1100	249755	Magnetic Pick-up
C1101	86321	0.75 Mfd. Motor Capacitor	R1100	81248	190 Ohms 5 W ± 5%
F1100	247850	Fuse - 5 Amp.	R1101	82704	1500 Ohms 1 W ± 10%
I-1100	507522	Indicator Lamp	R1102	82432	4700 Ohms ½ W ± 10%
J 1106	309367	Socket Housing	S1100	252926	Cam Switch
J 1107	309340	Socket Housing	S1101	252927	Clutch & Reset Lever Sw.
J 1108	861328	Socket Housing	S1102	252927	Clutch & Reset Lever Sw.
K1100	245578	Trip Solenoid	S1103	245816	Trip Switch
K1101	252228	Pop Meter Solenoid	S1104	247846	Reversing Switch
L1100	303702	Choke 100 μ Henry	S1105	249235	Detent Switch
P1100	309351	(3) Pin Cap Housing	S1106	248127	Play Cont. Subtract Sw.
P1101	309352	(6) Pin Cap Housing	S1107	252409	Clamp Arm Switch
P1102	309353	(9) Pin Cap Housing	S1108	252720	Selector Indicator Switch
P1103	252922	Single Prong Plug	S1109	252947	Relay Hold Switch
P1104	252922	Single Prong Plug	S1110	252246	Switch Assembly
P1105	941823	Sleeve Receptacle	S1111	252246	Switch Assembly
P1106	309368	(20) Pin Housing	TB1100	305113	Terminal Strip
			TB1102	249765	Terminal Strip
			W1100	252949	Control Cable
			W1101	249965	Internal Cable
			XI-1100	252224	Light Bkt. & Socket Assem.
			XPU1100	249727	P.U. Cartridge Socket Assem.

SELECT-O-MATIC MECHANISM



Schematic Diagram For Format Memory Unit, Type 160TM3